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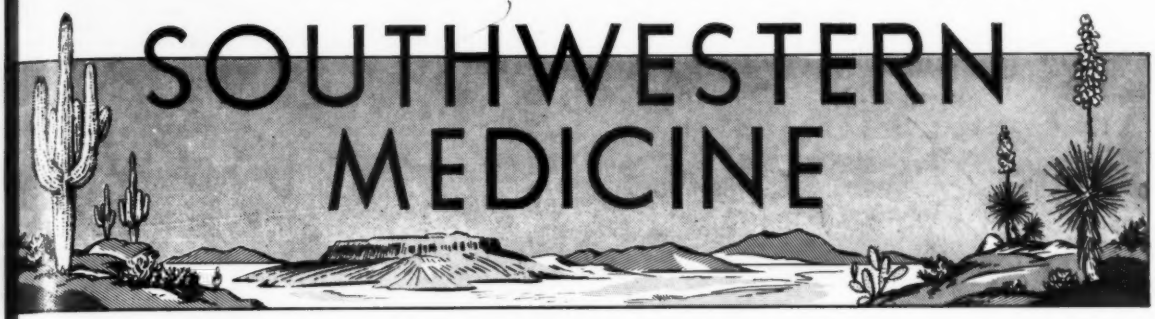

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SOUTHWESTERN MEDICINE

Vol. XXVI FEBRUARY, 1942 No. 2

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HOW TO HELP

In the August issue of Southwestern Medicine, Before Pearl Harbor, 1941, there was printed an editorial on the role of the County Medical Society in preparing for war. That article was presented "just in case," and as a timely hint to get abreast of the trend at that time. Well, the "just in case" has happened—and the advice contained in that editorial is more timely than ever. So, for any who did not read it, herewith a repetition:

What to Do

In the civilian population there is in general quite as much willingness to adopt measures of preparedness in the defense of this nation as exists in the military services. The question so often is "What To Do?" That is well answered by the Lehigh County (Pa.) Medical Bulletin—at least for the civilian medical profession. The schedule is frankly modelled after procedures found feasible by the British. When these ideas were first promulgated it will be recalled that the war was called "phony" by various of our heavy thinkers, and many in England were inclined to scoff rather cynically at civilian defense measures. Tragically enough, the scoffers at the "Home Guards" saw the day come when civilian defense alone saved the country from downfall. May that day never come to America. Yet to the foresighted, the hints below may be valuable:

What the County Society Can Do:

1. Bolster and aid in maintaining public morale.
2. Sponsor
   a. Blood typing campaigns
   b. Tetanus immunization campaigns, and
   c. Later—typhoid inoculations
   d. Rodent control, information controls
3. Establish (provisionally) the organization for
   a. Base hospitals
   b. Clearing stations
   c. Aid centers
4. Educate large groups in (if and when need seems imminent)
   a. Gas and gas mask usage, symptoms, treatment
   b. Control of hemorrhage
   c. First aid for
      (1) Fractures
      (2) Wounds
      (3) Burns
   d. Sanitation and water safety measures. Publish bulletins, circulars, and placards for above.
5. Set up the proper personnel for all above casualty stations.
6. Be prepared to train civilian resuscitation squads.
7. Be prepared to train decontamination squads.
8. Be prepared to train transfusion teams.
9. Be prepared to train fracture teams.
10. Be prepared to establish sera and chemotherapy stations.
11. List all trucks for ambulance usage.
12. List all private cars for messengers and supply usage.
13. Establish a sanitary committee to work with the city engineer's office in reestablishing sewer control and disposal of the dead (animals and humans).
14. Set up an executive control to coordinate all above with the civic authorities and with all trained groups, such as the Red Cross, civilian nurses, American Legion, Boy Scouts, etc., and aid the above program through their leaders.

15. Coordinate with state and national medical societies.

16. Coordinate with military requirements.

What the Individual Physician Can Do:

1. Keep up to date with foreign letters in the A. M. A. Journal, A. R. P. bulletins, war medicine, etc.

2. Review modern treatment of war wounds, gassed cases, neuroses, etc.

3. Type or have typed all people possible.

4. Give tetanus toxoid when possible.

5. Dissipate defeatism.

6. Respond promptly to requests from A. M. A. and State Society.

BRANDING TIME

The present very cooperative and effective relationship between the Army Medical Department and those great bodies representative of the civilian medical profession give assurance that during the present emergency medico-military affairs will be administered with the greatest possible degree of efficiency to the Army and to the civil population of our country.

JAMES C. MAGEE, Major General,
United States Army, The Surgeon General.

The mobilization and utilization of the medical profession have been placed in the hands of the profession itself through the establishment of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians. I am sure we may rely, as always in the past, on the patriotism of the American medical profession.

PAUL V. McNUTT, Director,
Office of Defense Health and Welfare Service.

The Medical Department of the Navy expresses its deep appreciation to the medical profession of our country. Now that war is actually upon us, the Navy will need more medical officers. It has no fear regarding its needs being met; the past has shown wholehearted cooperation. This war must come to a successful conclusion. I am convinced that the medical profession will do its part to bring that about.

ROSS T. McINTIRE, Rear Admiral,
United States Navy, The Surgeon General.

The Army is short of doctors. The Navy needs doctors. Your Army and your Navy—if you please.

The time has come to say some things rather plainly. To begin with, the response of a certain group of younger physicians to the call of our country has not been entirely satisfactory. Vast excuses for not entering military service are offered. All of us have heard these songs—debts on a new house in the swank additions; a wife and a child to support; poor old papa or poor old mamma have come to live with us; can't keep up my insurance program on service pay; just re-equipped my office; just got started in practice and have too good a thing to lose; if Bill Jones (my competitor) goes, so will I; they only offer me a lieutenant's commission. You have heard more—you supply the chorus. But it all boils down in most cases to a simple answer—the unwillingness on the part of the individual to give up, that the whole might survive.

Now it is encouraging and heartening to see the oldsters come forward, those who went last time in 1916, those who have greater financial obligations and greater family responsibilities. Again they offer themselves and their all. Twice in their lives has their country called. Twice have they answered, shaming the spoiled youth of our profession. And spoiled are far too many of the precious younger generation of doctors. Those who entered a community fresh from school just a few years ago, gained quick acceptance, built lucrative incomes in a very short time—of course they are spoiled in many cases. Money, money, money—the heady wine of gold and silver in bigger piles than their confreres! You've seen these men in nearly every community. Haven't you often wondered if they have lost touch with vital things?

It has been said that if America was attacked, patriotism would sweep away all else. Well, in too many young doctor's minds there is still a dollar qualification on that sentiment. You know young fellows who ought to be in the service of the United States of America, and are not. Don't you think that the time has come when everyone must stand and be counted?

The hour of decision faces the young doctors of America. It cannot be put off any longer. How do you choose to be branded, doctor?

PHYSICIANS AND THE WAR

This is the way the Ohio State Medical Journal expresses it:

Here is the situation which confronts the medical profession: All male physicians under 45 years of age are subject to call for active military service under the Amended Selective Service Act. Undoubtedly, *physicians will not be drafted if the Procurement and Assignment Service is able to fill the needs of Army and Navy through volunteers.* Physicians who enroll with the Procurement and Assignment Service and are called for active military service will be commissioned as officers in the Army Medical Corps or Naval Medical Reserve Corps upon induction into the service. A physician in-

ducted into the service under the Selective Service Act probably would have to wait several months following induction before being commissioned.

Physicians over 45 years of age, except in special instances and where they may have some special qualification for active service, will be expected to enroll with the Procurement and Assignment Service for service on the home front. Such physicians would be retained in their present capacities if in the opinion of the Procurement and Assignment Service they are essential for the needs of the civilian population, in industrial practice, in a teaching capacity, etc., but they would be making themselves available if necessary for assignment to governmental agencies requiring medical personnel where shortage of medical personnel exists because younger men have entered the Army or Navy. Moreover, physicians over 45 years of age will have to take over more and more responsibilities in providing professional services for Selective Service Boards, public health agencies, civilian defense organizations, and similar home-front groups. Physicians under 45 who cannot meet Army and Navy physical requirements also will be expected to make their services available for such assignments.

Therefore, *every physician, regardless of age, will find as the war continues that his services in some capacity will be required in the winning of the war*, with those 45 years or under (especially those 36 or under), who can pass the physical requirements, serving with the Army or Navy and those over 45 years of age manning the essential services on the home front.

That is to the point, we'll all agree. And so that all may know just how much is the salary for the various grades, there is herewith appended an outline:

Grade	Annual Base Pay	ALLOWANCES Rental With Dependents	Rental Without Dependents	Subsistence (30 days) With Dependents	Subsistence (30 days) Without Dependents
Colonel	$4,000	$120	$80	$36	$18
Lieut. Col.	3,500	120	80	54	18
Major	3,000	100	60	54	18
Captain	2,400	80	60	36	18
1st Lieut.	2,000	60	40	36	18
Captain	$4,000	$120	$80	$36	$18
Commander	3,500	120	80	54	18
Lieut. Com.	3,000	100	60	54	18
Lieutenant	2,400	80	60	36	18
Lieutenant (Jr. Grade)	2,000	60	40	36	18

The annual base pay is increased at the rate of 5 per centum thereof for each three years of service up to 30 years.

Surgical Considerations in Jaundice

KARL A. MEYER, M. D.
Chicago, Illinois

THE successful therapy of jaundice must be based upon the simple classification of being either of the medical or surgical type. In the medical types of icterus, treatment resolves itself into those therapeutic supportive procedures which aim at both the protection of the liver parenchyma and at aiding in the restoration of already damaged tissue. In the treatment of surgical icterus not only are the same supportive measures indicated but also surgical intervention directed at removal of the underlying causative factor. Recognition of the type of jaundice is essential since failure to do so in the instance of surgical jaundice invariably leads to disastrous results.

The differentiation between medical or surgical jaundice is not always easy. Although studies of the pathogenetic factors of jaundice[1] have clarified our concepts of the various types of jaundice, nevertheless they have made the diagnosis of icterus more difficult. The time has passed when the jaundiced patient who had an alcoholic stool on one examination was considered an obstructive surgical case or when the jaundiced patient having urobilinogen in the urine was thought to be medical. Now we accept that icterus is not, within certain limits, an emergency symptom and that sufficient time for adequate laboratory determination may be taken safely. Ultimately if surgery is indicated,

From the Cook County Hospital, Department of Surgery, Northwestern University Medical School.

Read before Southwestern Medical Association, El Paso, November 20-22, 1941.

the patient having had simultaneous medical management for jaundice may then be a better risk than if he would have been operated upon soon after admission.

Not only is it imperative to diagnose the type of jaundice but also, in the instance of surgical jaundice, whether the obstruction is complete or incomplete; since the indication for surgical intervention and the type of procedure to be performed differs for each.

The surgeon may encounter the laboratory findings of both types of jaundice in patients supposedly surgically jaundiced. These may be:

(a) Icteric patients who have both bilirubin and urobilinogen in the urine.

(b) Icteric patients who have bilirubin but no urobilinogen in the urine.

The patients in group A showing both bile and urobilinogen in the urine, are the greater diagnostic problems. The jaundice may be due to a damage of the liver parenchyma (hepatitis) or to an incomplete obstruction of the common duct by a stone. In the former the treatment is purely medical; in the latter, removal of the stone is necessary. Textbooks of surgery describe typical signs and symptoms of gallbladder disease associated with choledocholithiasis, however, in practice most cases are typical and frequently require laboratory determinations to assist in reaching an accurate diagnosis.

DIAGNOSTIC AIDS

It should be stressed here that a careful history and physical examination plus repeated simple urinary tests will usually lead to a correct diagnosis of choledocholithiasis and that elaborate liver function tests are not indicated in most cases. We feel that observations of the fluctuations of bile and urobilinogen content in the urine and of the icterus index of blood are often of as great diagnostic value as the results of any liver function tests. However, there are a large group of these patients in whom a correct diagnosis is arrived at only after repeated liver function tests, and only after careful interpretation of the results of the study of the bile pigment metabolism.

From the study of a large number of jaundice patients in the Cook County Hospital we have concluded upon a number of points which have proven helpful in the differential diagnosis between icterus due to hepatitis and that due to incomplete obstruction (choledocholithiasis). These are common points frequently overlooked in the history, physical examination and laboratory workup. For example, a history of the ingestion of a drug, of alcoholic debauch, of dietary indiscretion or of a preceding infection most often points to a hepatitis rather than cholelithiasis as a cause for the jaundice. On the other hand, a history of previous gallbladder disease or previous attacks of jaundice are more indicative of an icterus due to common duct obstruction by a stone. The type of pain, such as severe and colicky requiring morphine for its relief, also points to a cholelithiasis rather than hepatitis. Loss of weight and pruritis occur more often in hepatitis while fever and chills are more frequent symptoms in jaundice due to obstruction by stones.

Hepatitis occurs more often in the younger individual who is thin or has history of some weight loss and who has a rather low normal blood pressure. In constrast to this the gallstone icterus afflicts mostly the older, stockier individual with a rather higher blood pressure. On physical findings the liver is usually enlarged in the hepatitis cases and this is often associated with a palpable spleen while both of these signs are uncommon in choledocholithiasis group. In the latter, the gallbladder may at times be felt if a hydrops in the gallbladder exists. Ascites and edema point to a hepatitis. In color the jaundice of hepatitis is usually reddish and that of cholelithiasis of a greenish hue.

In the hepatitis cases X-ray findings are essentially negative, while in those with cholelithiasis direct signs, such as calcific shadows, or indirect ones, such as extrinsic pressure on the duodenum, can be elicited. The icterus index level is usually high and fairly steady in hepatitis, but moderate and fluctuating in jaundice from gall-stones. A normal or decreased cholesterol level with cholesterol esters of less than 50%, a galactose excretion of over 3 gms., and a hippuric acid excretion of less than 3 gms., will point to a hepatitis rather than cholelithiasis. A slight increase in the phosphatase and non-protein nitrogen points to a hepatitis, while an increase in the diastase to cholelithiasis.

The jaundice patients in group B who have much bilirubin but no urobilinogen in the urine constitute the lesser diagnostic problem but at the same time offer therapeutic difficulty since they have a poorer prognosis. They may repre-

sent cases of common duct obstruction on a malignant basis or they may be patients with a hepatitis and an associated intrahepatic block. Even though the latter condition is not as common as the first, nevertheless, it occurs frequently enough to be considered in the differential diagnosis of obstructive jaundice. The surgeon who explores an obstructive jaundiced patient and finds a large liver, narrow common duct, and contracted gallbladder on the basis of intrahepatic block has added insult to injury and jeopardizes the recovery of that patient from his severe hepatitis. Therefore, the importance of differentiating between extrahepatic obstruction (requiring surgical intervention) and intrahepatic obstruction (medical) is obvious.

EXTRA- OR INTRA-HEPATIC OBSTRUCTION

In our clinic we have found the following clinical and laboratory data to be of aid in this differentiation. Extrahepatic obstruction is indicated by gastro-intestinal symptomatology—the most common pathology being carcinoma of stomach or colon through metastases to the periportal glands. In contrast carcinoma of common duct or head of pancreas may be asymptomatic except for the jaundice. A history of ingestion of drugs, alcohol, or of preceding infection should point more to an intrahepatic obstruction. In this connection it may be mentioned that frequently the jaundice in arsenical hepatitis is of the obstructive type[2]. Loss of weight, fever and pruritis are usually signs of extrahepatic obstruction.

The patient suffering from obstructive jaundice on an extrahepatic basis is usually of the older age group, emaciated and showing signs of hemorrhagic diathesis, in contrast to the younger and better nourished patient with obstructive jaundice on the basis of an intrahepatic block. In the latter, the liver is enlarged and smooth, the spleen is usually palpable, but the gallbladder is not felt. In the extrahepatic obstructive jaundice the liver is frequently nodular, the spleen is not felt and the gallbladder is markedly dilated and feels like a soft mass (Courvoisier's law). Ascites and edema is more common in the intrahepatic obstruction (especially cirrhoses), although ascites may occur in the extrahepatic obstructive jaundice. If it does it is on the basis of carcinomatosis of the periotoneum. The shade of the icterus is deep green to bronze in malignant obstruction (surgical), but a greenish hue in the intrahepatic block type of obstructive jaundice (medical).

In cases of obstructive jaundice from extrahepatic causes, the X-ray may reveal the malignant cause somewhere in or along the gastro-intestinal tract while in cases of intrahepatic block it is negative. Occasionally esophageal varices have been visualized in cases of intrahepatic block on a cirrhotic basis. The level of icterus index is high and horizontal in the extrahepatic obstruction but high and rising in the intrahepatic block. A total cholesterol level higher than normal and cholesterol esters above 50% point to the extrahepatic rather than intrahepatic block. A reversed albumin globulin ratio, a galactose excretion of more than 3 gms., a hippuric acid excertion of below 3 gm., and an increased non-protein nitrogen very strongly suggests a medical obstructive jaundice on an intrahepatic basis. Very high phosphatase and increased diastase values point more towards an extrahepatic obstruction.

As previously noted there are differences in the anticipated clinical course and the surgical procedures to be utilized for those jaundice patients with incomplete obstruction (i. e., stone) and those with complete obstruction (i. e., malignancy). Therefore it is necessary to briefly describe some of the features pointing to one or the other type.

The patients with surgical jaundice of the complete obstruction type are usually older, apathetic, frequently emaciated, very icteric—of almost bronze appearance—and showing signs of marked pruritis[3]. Those with incomplete obstruction are usually of middle age, well nourished, complaintive and less intensively jaundiced. Pain is usually more severe in those with incomplete obstruction. The icterus index is high and steady in the malignant, while it is moderately elevated and fluctuating in the benign obstruction (stone). An enlarged and at times nodular liver is mostly found in complete obstruction. In the latter, urobilinogen is constantly absent from the urine, while in the incomplete obstruction it is usually present in variable amounts, a fact which can be demonstrated especially well by doing quantitative urobilinogen determinations on 24-hour urine specimens. Watson[4] has especially stressed this latter test as differentiating between an ob-

structive jaundice due to a stone from that due to a malignant process.

OBSERVATION OF PATIENT

From the above, it is apparent that there are certain differential diagnostic points between hepatitis and incomplete obstruction on the one hand and between extrahepatic and intrahepatic obstructive jaundice on the other hand. Furthermore, there are also certain points differentiating between malignant (complete) and benign (incomplete) obstruction. However, these points have to be brought out not only during the initial history and examination of the patient but also searched for during the ensuing workup. Although in the majority of instances the diagnosis can be made within several days, some require a longer period of observation. The time taken in the careful diagnosis of icterus is well spent. It rewards the clinician and surgeon by decreasing morbidity and mortality in these patients. Except in rare instances of empyema of the gallbladder associated with jaundice should surgery be performed immediately. With only this exception the jaundiced patient can be safely worked up for a period of from 7 to 10 days or longer preparatory to surgical intervention.

During the time of "diagnostic" observation, the patient should be put on an appropriate hepatitis therapeutic regimen. This method of procedure is of twofold value. First, it will aid in the recovery of the actual hepatitis. Secondly, it will make the surgical patient a better operative risk. Moreover, once surgical intervention is decided upon, no valuable time need be lost in lengthy preparation of the patient, since he will require only the special pre-operative measures as administration of Vitamin K and blood transfusion. The importance of preparing jaundice patients carefully for surgery and of administering the proper anesthesia cannot be overstressed. A correct diagnosis of jaundice will be of no avail if we neglect to prepare this patient carefully before surgery or if we fail to consider his requirements both during and following the operation.

SUMMARY AND CONCLUSION

Jaundice is a symptom of a disease always requiring medical treatment and commonly additional surgical intervention. There are no "classical" signs or symptoms which might denote unfailingly those patients in which surgical intervention should be instituted. However, there are certain more or less characteristic features in each. The observation of these will aid in the decision between those cases requiring purely medical care or the additional surgical management in jaundice. An attempt has been made to present some of the data which we believe will help when considering surgery in cases of jaundice.

1825 West Harrison St.

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The Senile Heart

(Observations on Prognosis and Management)

LOUIS FAUGÉRES BISHOP, Jr., M. D.
New York, N. Y.

THE subject of gerontology[1] (which is a fussy way of talking about the study of growing old) seems to be of increasingly urgent medical interest. In fact, only recently a plan was formulated in which a class of Columbia University Medical School being faced with the increasing number of deaths within their own class, launched a program of study on themselves, with a view to increasing life expectancy. It is safe to say that any observations which are made in the study of the senescent heart are not without some interest.

Read before Harlow Brooks Memorial Navajo Clinical Conference (Sixth), Sage Memorial Hospital, Ganado, Arizona, August 25-27, 1941.

Author's Note: The subject and the title I have chosen for my talk are in a way a steal, a deliberate one, from a very famous book entitled, "The Senile Heart," which was written about fifty years ago by a certain Dr. Balfour, an English cardiologist.

Like many things in medicine, a re-reading of this book teaches us full well that, there is very little to add to what has been known about this subject for many, many years. The only reason for reviving it again is in the light of one's own experience.

The practicing physician engaged in the care of individuals suffering from heart disease can contribute a great deal of valuable data because he has a unique opportunity to observe the age process at close range.

The few observations on prognosis and management which I wish to bring to your attention today are based on an attempt to find out some facts as one observes these patients over a period of time.

It would appear there will be an increasing opportunity to study large numbers of persons with degenerative processes. We need more exact information concerning such individuals who provide fertile fields for biologic and medical research[2].

As has been frequently stated, the course of normal old age is modified by pathological changes, and these are largely the result of those diseases which fall within the category of the degenerative conditions, such as chronic arteriosclerotic heart disease.

During the past thirteen years, we have had the opportunity to study the aging process modified by various cardiovascular conditions, and this report is based upon a study of 184 individuals seen in private practice, who have reached the age of seventy years, or over, under our care. The age and sex incidence is shown in Table I. The duration of medical care of these 184 cases is shown in Table II. Nearly all of these patients were examined and cared for with heart disease as the most important underlying factor. The usual concept of the course of arteriosclerotic heart disease is, that it progresses slowly or rapidly to cardiac invalidism or to a vascular accident[3], such as a cerebral hemorrhage. On the contrary, we have found a number of these persons who live for many years, and who during this period lead active lives. We shall make no attempt to explain these extreme variations in the duration of arteriosclerotic heart disease from the pathological standpoint, but we do call attention to the clinical data we have at hand.

Table I
AGE INCIDENCE AND SEX INCIDENCE

Age	Male		Female	
	Alive	Dead	Alive	Dead
70- 71	15	15	7	6
72- 73	10	11	12	2
74- 75	10	4	4	3
76- 77	8	5	7	4
78- 79	5	7	3	1
80- 81	10	3	8	2
82- 83	4	4	2	2
84- 85		2		
86- 87		1		
88- 89	1			
90- 91		1	1	1
92- 93				1
94- 95				
96- 97			1	
166-167	1			
Totals	64	53	45	22

(Totals—Females: 67; Alive, 45; Dead, 22. Males: 117; Alive, 64; Dead, 53.)

Grand Total Living ..... 109 Males and Females
Grand Total Dead ..... 75 Males and Females
184

Table II
DURATION OF MEDICAL CARE

Years	Male		Female	
	Alive	Dead	Alive	Dead
0	3	10	3	3
1- 2	10	10	8	3
3- 4	8	5	6	5
5- 6	5	4		1
7- 8	3	4	5	2
9-10	10	8	8	
11-12	4	3	4	1
13-14	6	3	5	4
15-16	5	1	1	
17-18	2	1		
19-20	1		2	
21-22	4	1	2	
23-24	2			1
25-26	3			1
27-28				
29-30		1		
31-32			1	

There has been an increasing number of papers appearing in the literature confirming these clinical observations. Longevity following coronary infarction is a well-established fact. A recent case established a new record, that of a man who died at the age of 73 in the twenty-fifth year after his first attack of coronary thrombosis[4]. From our study we have seen survival to longevity following coronary infarction, and although in some studies[5] acute occlusion seems to be unusual in the late periods of life, it is not unusual in our group of patients. In several of these instances acute infarction occurred in individuals past 70, with several years of useful life following the episode.

RHEUMATIC HEART DISEASE

It would appear from recent reports[6] that rheumatic heart disease occurs more frequently past the age of 70 than is generally recognized. One of this series[7], previously reported as a single case report, was found to have chronic rheumatic heart disease with mitral stenosis at autopsy, and was observed for twenty-five years with auricular fibrillation. Concomitant coronary artery disease was an added cause of death. If it were possible, as has been suggested[8], to procure more autopsies in the aged, we might find rheumatic heart disease more common than is generally supposed. The systolic murmur, frequently noted in elderly patients, is usually considered as of arteriosclerotic etiology, or an accompaniment of hyper-

tension. The possibility that such a systolic murmur may be rheumatic is not considered. A number of patients in our series appear to have this possibility present clinically. Certainly the prognosis of rheumatic mitral stenosis is not always bad.

Now whereas longevity with rheumatic heart disease is probably more common than is ordinarily supposed, and together with the fact that autopsies are seldom done in aged individuals, rheumatic heart disease might frequently be overlooked. Examples of persons with known rheumatic heart disease who have survived to long life are fairly rare, at the present time. There is a case of rheumatic heart disease whom we followed and observed over a period of twenty-five years while this lady lived to the age of 80. She had auricular fibrillation which was part of her rheumatic heart disease, as it was clinically observed from 1914 to 1939.

In 1914 she was first seen by our office, at which time a polygraph tracing was taken which showed the absence of the characteristic A wave in the jugular pulse, and an irregular radial pulse characterized by auricular fibrillation. As you know, the polygram preceded the electrocardiogram as a graphic diagnostic method for determining the presence of auricular fibrillation.

In 1919 an electrocardiogram was taken which showed the presence of auricular fibrillation. This persisted through 1927, and on to the time she died in 1939, a period of twenty-five years.

The X-ray showed an unusually large rheumatic heart in a woman aged 80.

At autopsy the presence of long-standing rheumatic heart disease was revealed, and the clinical diagnosis of rheumatic heart disease in an aged person was confirmed.

Interestingly enough, she died of arteriosclerotic heart disease, and at autopsy a coronary thrombosis was noted.

In considering the aged individual with a cardiac murmur, one has to bear in mind the possibility that rheumatic heart disease may have been present for a long period of time, which emphasizes to us that the prognosis of rhemuatic mitral stenosis is far from being always bad.

These observations on an individual with rheumatic heart disease and auricular fibrillation over a long period of time illustrate the importance of not ever giving a definite prognosis when confronted with the question of rheumatic heart disease in early life, because certainly at least in isolated examples the duration of life may be far longer than the usual conception.

We have published a number of reports [9, 10, 11, 12, 13] during the past years in which we have noted that the finding of a disturbance of function, even when there was a strong probability of survival to longevity. Severe disturbances of function, such as bundle branch block, which have been present in persons who attained the age of 70 years or over, have led us to the obvious conclusion that any electrocardiographic finding in itself is not necessarily indicative of severe heart disease, nor of a poor prognosis. From our present study it is clear that a wide variety of functional irregularities is noted electrocardiographically, and confirmed by clinical diagnosis.

Another observation of a somewhat different nature has been the realization that whereas the electrocardiogram has been very useful in interpreting the cardiac irregularities, and many times giving information as to the probability of damage to the heart muscle, the finding of severe damage as evidenced by the electrocardiogram does not necessarily preclude the possibility of survival to longevity. This is particularly well-illustrated with regard to the question of the electrocardiogram typical of bundle branch block.

BUNDLE BRANCH BLOCK

The usual conception that bundle branch block is invariably associated with a poor prognosis and with a severely damaged heart muscle, in a number of examples which we have observed in this study, has been completely upset. To illustrate: We have had under our care one individual for a period of eleven years with the finding of bundle branch block in the electrocardiogram, first of a transient nature, and then of a permanent nature. The following slides illustrate this point, and yet this man, during all this time, as far as his functional activity was concerned, carried on an active existence.

Our most unusual example of bundle branch block is in a woman who has been observed for a period of twenty-one years with bundle branch block and hypertension, with no particular change in her cardiac function resulting, and with the ability to carry on an active life. Such

an experience again emphasizes to us the importance of being very careful in not jumping to any prognostic conclusions from an electrocardiographic finding alone, and that the presence of bundle branch block is not any indication of a poor prognosis in itself, but is only part of the cardiovascular picture.

It has become evident in this study that a large number of cardiac irregularities can persist for many years in such elderly individuals.

AGING OF CARDIOVASCULAR SYSTEM

In a consideration of this group of individuals who have attained the age of 70, and whom we have observed or followed into this period of life, we have to be careful in evaluating what is known about the aging of the cardiovascular system apart from disease. This has been reviewed only lately. There are changes in function associated with the aging process: The pulse rate decreases slightly. There is an increase in the velocity of the aortic and radial pulses. A hypertension sometimes occurs in the aged. This hypertension we note not infrequently in our own experience, and in one sense, it is not a true arterial hypertension leading to cardiovascular disease. This type of benign systolic hypertension in the aged seems to be more common in women. It is probably safe to say that in the aged there is no characteristic electrocardiogram. The large number of abnormal electrocardiograms noted in our series is no indication of the electrocardiogram in old age. Besides the abnormalities noted in the electrocardiogram, we of course noted the findings described as part of the aging process: the increasing tendency to left axis deviation; the increase in the relative duration of systole; and a lessened frequency of sinus irregularity[14]. It is probable that in any group of patients over 70 a certain percentage would have changes indicating myocardial damage.

It would appear wiser to consider the aged heart patient as always having a disease process amenable to care and treatment, than ever to express the viewpoint that what is found is an unavoidable expression of growing old, because no one can answer this question.

In a consideration of survival to longevity with heart disease we have encountered in this study a number of examples of functional heart disease, as well as the so-called cardiac neurosis. Merely because longevity is present, a diagnosis such as the above must be kept in mind, or longevity might be halted by too much treatment. This is particularly true with regard to the cardiac irregularities for a number were encountered in this study, were perfectly compatible with longevity, and many times amenable to simple treatment.

The number of associated clinical conditions in this group is almost too numerous to mention. The tolerance of a number to operative procedures was remarkable, such as prostatic surgery and cataract operations. Cataract operations are often performed without difficulty on the aged, with recovery. Accidents are frequent, with recovery. (To cite the most striking instance, an old lady of 96 with coronary sclerosis, fractured her hip, had the pin operation, and is now up and active again.) Pneumonia occurs not infrequently, with recovery, and probably now in more instances since the advent of chemotherapy. Cerebral vascular disease was associated in not a few instances, but examples of pronounced mental disease associated with senile deterioration were extremely rare.

DATA ON PRIVATE CASES

This group of 184 patients, from a private practice devoted to the care of individuals with chronic cardiovascular disease, does not lend itself easily to statistical analysis, yet from our study some interesting data have been obtained which may be of some value in future more detailed investigations. Most of these patients had some presenting symptoms of a cardiovascular nature which required analysis. A few were examined with the consideration in mind that they might have to undergo some unusual strain, such as an operation. A number of these patients seek advice about cerebral symptoms which they believe to be essentially cardiac. The symptomatology of the aged has not received the systematic study that it deserves. The chief complaints noted in this group were: (1) pain or discomfort in chest (with or without radiation); (2) palpitation (various types of description); (3) cerebral symptoms: dizziness, fainting, headache, and (4) dyspnea.

The rarity of forms of heart disease other than coronary artery disease, with or without angina pectoris, or associated hypertension, is evident. We have noted no examples of luetic heart disease in this study of longevity. We have wondered, as mentioned, whether rheumatic heart disease is not more common than is generally believed.

With regard to the clinical picture of coronary artery disease in the aged, there are certainly a number who have a normal blood pressure, a heart of normal size, and no evidence of cardiac insufficiency. We have also observed a number of persons in whom painless infarction has resulted. Coronary infarction, even with survival, has already been mentioned. There were several elderly men with coronary sclerosis who came for examination because they did not want to give up their active outdoor life on account of heart disease. One was a golfer who hated to decrease his usual game of golf from 18 to 9 holes, and another a salmon fisherman who wanted to keep on with his fishing trips.

There is a tendency for the physician to overlook associated diseases in elderly patients who have attained longevity. One of this series at the age of 90 had a strangulated hernia, with recovery, which was only diagnosed with great difficulty on account of her condition. One acute appendix was also encountered.

The occupational group studied has been varied, but has disclosed a large number of physicians, which in a sense brings it very close to home.

A very large proportion of this group of patients have a history of longevity. In a consideration of this elderly group, we naturally became interested in what has been so many times illustrated: the question of longevity in the family history. Here our own observations were quite remarkable. Among these individuals we found 59 persons with two parents over 70, 63 with one parent over 70, and half as many with no parents over 70. (Of course, as you all know, there were many who did not know the age of their parents at time of death.) This observation on family history in this series is quite striking.

The economic status of this group of patients appeared to us to be unusually good. Possibly this may account for the fact that many were able to survive to old age with some form of heart disease, for they had good care.

HISTORY OF LONGEVITY

Patients With One Parent Over 70	63
Patients With Two Parents Over 70	59
Patients With No Parent Over 70	30
Age of Parents at Death Unknown	32
	184

HISTORY OF HEREDITARY HEART DISEASE
(Approximately 25%)

Known Heart or Circulatory Disease in 1 Parent	32
Known Heart or Circulatory Disease in Both Parents	8
Known Heart or Circulatory Disease Siblings	9
	49

TREATMENT

I realize it is very hard to add anything new, or even new thought, on the management of the elderly patient with heart disease. But I thought it would be interesting to you to hear a few points that have appeared significant in our care of elderly patients with heart disease. First, to keep people alive, no matter who does it—whether it be the heart specialist, the general practitioner, or the surgeon—it appears important to make a complete examination of the patient, together with intensive medical care—that this is the best way of keeping an individual in condition and prolonging life.

Everyone who practices medicine for any period of time prescribes certain favorite drugs in the management of his patients. And in the management of our cardiological practice we made a recent study of the drugs we use most frequently. While this list may not apply entirely to this group, it does for the most part. We include (1) mild sedation, (2) digitalis, (3) quinine, and (4) nitroglycerine.

No one has yet answered the question of the value of the continuous use of small doses of digitalis in elderly persons. Although there is a great deal of controversy concerning the tonic use of digitalis, it is believed that small doses of digitalis in many of these patients have been responsible for the prolongation of their lives. A moderate dose of digitalis never seems to have any cumulative action, or so rarely and slightly that we may continue it for a week or two without observation and without risk. Certainly, a grain, or a grain and a half, daily of the powdered leaf can be demonstrated safely over a long period of time without risk or cumulative action. This means that the object we have in view when using digitalis in a case of senile heart is not to remove dropsy, to slow the rate of pulsation, or to contrast the cardiac cavities, but by the accumulation of trifling advantages to tone up and strengthen the cardiac muscle by improving its metabolism. Gradually the heart acts with more vigor, the circulation improves in steadiness and force, any edema occupying the tissue space is removed, and thus the blood pressure is lowered and a considerable strain taken from the heart. For this purpose only moderate doses are required, doses which can be continued for many months without any risk of dangerous accumulation, and yet which have a decided effect in strengthening the heart.

improving the tone and elasticity of its muscle, and accumulating energy in its ganglia. Naturally the process is a slow one, and the benefit for a time is not very obvious to the recipient. I quote from Balfour ("The Senile Heart"):

"Some years ago a friend said to me, 'Doctor, your medicine is doing me no good.' I said, 'Of that, you must allow me to be the best judge.' 'But I feel no change in my symptoms, nor any action whatever from what you have given me.' I replied, 'I expected nothing else; you are too impatient. Were I to give you medicine in such a dose as to produce a sensible action in a few days, before long its action would be so unpleasant that you would either stop it yourself, or your ordinary medical attendant would order you to give it up. In a short time the seeming benefit would vanish, and you would abuse me for giving you medicine which did not agree with you, and which gave you no permanent relief. Now what I have given you will not speedily relieve you; but give it time, and it will make you well, and prolong your days in comfort. Two or three months after this you will say to your wife some morning, 'Do you know, my heart is not so troublesome as it was; I begin to think that I am improving;' and six or eight months after this you will come to me and say, 'Doctor, I was preaching last Sunday, and feel none the worse for it.' And so it fell out, my friend and his senile heart are nowadays, after the lapse of five years, still very good company to each other, which for many a day they were not. The senile heart owes its peculiar symptoms and progress to the difficulty which a weakened myocardium finds in maintaining the circulation in the face of the permanent obstacle presented by rigidity of the arterial walls."[17]

After digitalis, comes quinidine. We use quinidine in small dosage for the control of premature contractions. This is the dose of nitroglycerine we use, 1/225th of a grain.

The economic status of those in our group has allowed them the companion-nurse, an aid which appears so helpful in the care of aged people.

Many of our group have been able to benefit by climate-change, and to continue their outdoor life the year 'round—for the same reason.

Exercise and Rest—There is no doubt of the value of a balanced program of rest and exercise in the elderly patient with heart disease. There is no question that all are benefited by some degree of exercise, whether it be in the form of a mild game or whether it is the most simplified type of physiotherapy. Practically all patients with heart disease are benefited by some form of physiotherapy.

COMMENT

Are there any common factors when one considers the group as a whole? Obviously, one must be very guarded as to any conclusions of this character. Except for the fact that they are our own observations, one cannot add anything definitely new on this question. First, it would appear for the most part in our series that they have been able to lead relatively quiet lives, due to economic stability, the comfort of loving children, or careful guardianship. This could be illustrated in a very large number of individual examples. Second, the ancestral inheritance of longevity is usually present, probably in nearly all. Third, there is almost the X factor that permits a heart impaired, or unimpaired, by disease, the continuation of life beyond the 70th and up to the 90th year of life. Such a heart must me an organ of unusual quality.

The philosophy of the question of survival to longevity in heart disease can only be suggested from this study. Without making any psychiatric study among this group, all are keenly interested in living. There are very few misanthropes. Most of the men are of a very masculine type, and the women are correspondingly feminine.

As a conclusion to this study of patients who have survived to longevity with heart disease, we find the course and duration of cardiovascular disease is almost unpredictable. Surprising results may be achieved in the management of such an elderly group of individuals suffering from cardiovascular disease.[16]

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Osteopathia Condensans Disseminata

(Two Case Reports)

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OSTEOPATHIA condensans disseminata occurs so infrequently that the finding of new cases still justifies their being reported. Such reports may be of more value than mere academic interest. It is important that data should be accumulated so that by comparative study definite conclusions can be drawn concerning the origin and fundamental characteristics of the condition. The striking and unusual appearance is one that would not escape the average observer's eye, and therefore its exact rate of occurence must be extremely low when one realizes the number of roentgenograms of bones that are reviewed before chancing upon this anomaly. Two cases found incidentally during X-ray studies for some unrelated condition are herein reported.

DEFINITION

The condition is a rare, symptomless, congenital and often familial bone anomaly roentgenographically diagnosed and characterized by the presence of multiple areas of fairly dense spots representing regions of bony condensation. These areas vary in size and shape and occur for the most part in the epiphyses and metaphyses. Their arrangement is in the general direction of the principal trabeculae in flat bones and parallel to the long axis of the long bones.

SYNONYMS

This disorder has been designated in the literature by various names, but we feel that the one that should be adopted in referring to it should be the anatomico-pathological designation suggested by Lowrey and Booth[7], namely, osteopathia condensans disseminata. Other names found in the literature are spotted bones, osteopoikilosis, osteopoecilia, multiple enostosis, osteititis condensans generalisata, disseminated condensing osteopathy, osteosclerosis fragilis generalisata, and Albers-Schonberg's disease.

PATHOLOGY

The pathological changes, according to Schmorl[11], consist of areas of increased bone density, irregular in contour and with somewhat jagged borders, ranging from needle head size to pepper grain or larger. The saw plane surfaces of these lesions have the appearance of small osteomata. Microscopically, they are situated in the subcortical regions and consist of juxtaposed thickened trabeculae which merge gradually into the surrounding structure at their periphery. The islands of bone resemble spongiosa and not cortex. Both osteoblasts and osteoclasts are present.

INCIDENCE

Most cases have been reported between the ages of 15 and 60, but there has been mention of one case in a fetus of 4 months[13]. The anomaly has been reported twice as often in males. Though European reporters have accounted for the majority of cases, this does not mean that it is more prevalent in that continent, for the total number of cases reported, including the two here described is about 83, too few to be of any significance. All case reports mentioning race are in the white race. The condition is definitely familial in its occurrence[3, 4, 6, 8, 12, 14, 16]. Its presence at birth and before[13] tends to establish its congenital nature. It bears no particular relationship to occupation.

From the Roentgenological Service, William Beaumont General Hospital, El Paso, Texas.

CLINICAL COLLABORATION

The condition is asymptomatic and is discovered accidentally when roentgenograms are taken for other conditions, or it is found incidentally by investigators checking its familial and hereditary tendency. History of typhoid fever, endocrinopathies (diabetes, parathyroid disease, hypopituitarism, and hypothyroidism), achondroplasia, tuberculosis, congenital syphilis, osteomyelitis, and osteochondromata have all been coincidentally present, but no actual relationship has ever been established. Disseminated lenticular dermatofibrosis, a rather inconspicuous skin disease consisting of papular symmetrically distributed lesions over the upper part of the back and arms, lumbar region, buttocks, and thighs or the same color as the surrounding skin, has been reported five times as coexistent with the condition. Curth[2] considers the skin and bone conditions as manifestations of the same disease. Our second case exhibited lenticular dermatofibrosis, and he stated that his mother, a brother, and a sister also had the same skin lesions.

There are no associated laboratory findings. The serum calcium, phosphorus, and phospatase have all been reported normal.

DISTRIBUTION

The parts of the skeleton in which the condition has been most frequently reported are roughly in the order listed[7]: pelves, heads of femora, heads of humeri, metacarpals, phalanges and carpals, metatarsals, phalanges and tarsals, condyles of the femora, tuberosities of the tibiae, lower ends of the tibiae and tibulae, condyles of the humeri, upper ends of the radii and ulnae, scapulae, patellae, and least frequently and in fewest numbers in the clavicles, mandible, and cranium. The condition has been noted once in a sesamoid bone[7], and it has been found in the spinal column[3] and ribs[15]. The foci of condensation are usually seen towards the ends of bones in the epiphyses and metaphyses. Nichols and Shiflett[10] infer that the anomaly is related to endochondral bone formation because of its occurrence only in the bones formed from cartilage.

ROENTGENOGRAPHIC MANIFESTATIONS

Due to the numerous small islands of increased density, a speckled appearance is present in the involved bones. The shape of these islands as well as their size will vary. They may be round, oval, lenticular, or striated in appearance, and their size may be from about 2 mm. or less to about 5 cm. or more. They tend to lie parallel to the long axis of the long bones and to the course of the principal trabeculae in the flat bones. The lesions are present symmetrically in the body. Cases have been followed for one[1], four[9], seven[10], and fourteen[5] years with no changes occuring. However, Holly[4] followed four cases for five years and reported appearance, disappearance, enlargement, and coalescence of islands. The latter findings can be explained because histologically osteoblasts and osteoclasts are present[11].

REPORT OF CASES

Case 1 (figure 1): E. L., white female, age 37, wife of an army officer, reported at the hospital outpatient service on September 11, 1939, because of a painful right heel of four month's duration. She had a history of severe typhoid fever at age 9, mild generalized rheumatic pains at age of 16, and tonsillectomy at age 21. She had one female child, age 11, whose skeletal survey for osteopathia condensans disseminata was negative and who had no history of typhoid.

Figure 1. Roentgenogram of knee showing involvement with both lenticular and striate types of lesions.

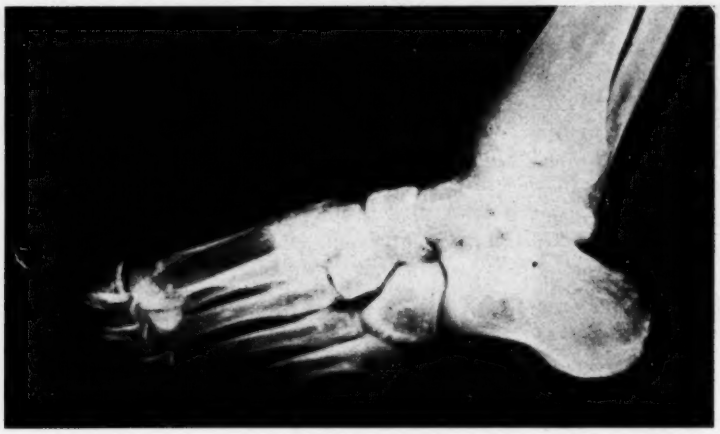

Figure 2. Note that the areas of condensation are parallel to the long axis of the bones or to the principal trabeculae.

The remainder of the patient's history was essentially negative. Except for some local tenderness over the right heel, the physical examination was negative. There was no evidence of disseminated lenticular dermatofibrosis. Coincident to the X-ray study of the right heel, the condition of osteopathia condensans disseminata was found. Complete skeletal survey was made and revealed the presence of the condition in all the bones of the body except the vertebrae, ribs, skull, clavicle, sternum, and patellae.

Case 2 (figure 2): A. V. Y., a white soldier, age 19, entered William Beaumont General Hospital on January 11, 1941, with the complaint of pain and swelling of his legs and ankles. He stated that these symptoms were brought on by prolonged walking and standing. The marching and strain of military life aggravated his symptoms. He had a history of mumps, measles, and pertussis in childhood. He never had typhoid fever, and he denied the venereal diseases. In 1937 he was injured in an automobile accident and received a fractured left clavicle, fractured ribs, and a fractured right elbow. All healed without deformity, but after this accident he was confined to bed for 8 months, and following this he had to wear a back corset for 2 years. He stated that he has had the skin lesions noted on physical examination as long as he can remember and that a brother, a sister, and his mother have similar lesions. Before coming into the army he was a mechanic. His mother and father are living and well, and 2 brothers and 2 sisters are living and well. The other members of his family were not available for X-ray studies. The physical examination was entirely negative except for the following noted points: There was some roughening of the first heart sound at the apex. The transverse arches of both feet were somewhat flattened. Discrete small papules of the same color as the surrounding skin were present in groups on the extensor surface of the right elbow and on the medial aspect of the flexor surface of the right leg. Routine urinalysis was essentially normal. Blood Kahn and Wassermann tests were negative. Serum calcium and phosphorous were normal. Osteopathia condensans disseminata was discovered coincident to X-ray studies for pes planus. Complete skeletal survey recorded the condition in all the bones except the vertebrae, ribs, skull, clavicles, sternum and patellae.

COMMENT

Two additional cases of osteopathia condensans disseminata are reported along with a brief review of the literature. Both cases tend to emphasize that the condition per se is unattended by symptoms. Continued case reporting and studies are indicated when the condition is discovered so as to clearly establish its relationship or connection to pathological manifestations in bone.

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Effect of Electromagnetic Radiations on Flocculation Tests for Syphilis

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VI THE EFFECT OF ULTRAVIOLET WAVES ON CHANGING THE SPECIFIC ROTATION OF SERO POSITIVE AND SERO NEGATIVE HUMAN AND ANIMAL SERA.

THIS is the sixth of a series of papers dealing with the effects of electromagnetic radiation on the various flocculation tests for syphilis. In the earlier papers of the series the effects of ultraviolet rays and diathermy on human and animal sera were discussed[1, 2, 3, 4, 5]. This paper will deal with the difference in the rotation of light caused by the presence of the reactive substance responsible for the production of positive flocculation tests in sera and the changes brought about by ultraviolet light irradiation.

EXPERIMENTAL

All sera, human and animal, were heated in an electrically controlled water bath at 36°C for a period of 30 minutes, removed, allowed to come to room temperature and examined by the Kline, Mazzini and Leiboff tests. The results obtained constituted the control reaction. Strict care was observed in following the author's serology directions for all tests. The inactivated sera were then transferred to a quarter decimeter polariscope tube and the degree of rotation determined using a sodium light.

After the control reaction and degree of rotation had been determined the sera were placed in small dishes and irradiated for 60 minutes with a quartz lamp using the same method as described in an earlier paper[1]. Kline, Mazzini and Leiboff tests were then run on this irradiated sera and also the degree of rotation determined. The sera were then placed in small test tubes, corked, and stored in the ice box. After 24 hours the sera were warmed in a 56° water bath for 10 minutes and their Kline, Mazzini and Leiboff reaction and their degree of polarization of light determined. All the values for the degree of polarization are given as the value of a tube 1 decimeter in length, the values having been calculated by multiplying the observed reading by 4.

RESULTS

The average, maximum and minimum number of degree of rotation of light for positive and negative human, horse and cow sera are given in Table I. All sera after irradiation for 60 minutes became seronegative regardless of the control reaction. After holding for 24 hours at ice box temperature, the sera returned to their original reaction.

Table I
Specific Rotation on Various Sera
One-decimeter tubes using pure sodium light

Sera	Total Examined	Control Reaction	Rotation of Untreated Sera	Rotation of Irradiated **Sera	Rotation of Irradiated Sera Held 24 Hours
Human	10	Pos.	Av. —5.3148°	Av. —4.064°	Av. —5.3148°
			Max. —5.9600°	Max. —4.200°	Max. —5.9600°
			Min. —4.8920°	Min. —4.000°	Min. —4.8920°
Human	30	Neg.	Av. —4.0012°	Av. —4.0000°	Av. —4.0012°
			Max. —4.0020°	Max. —4.0000°	Max. —4.0020°
			Min. —4.0000°	Min. —4.0000°	Min. —4.0000°
Cow*	50	Pos.	Av. —2.0600°	Av. —2.000°	Av. —2.0600°
			Max. —2.0600°	Max. —2.000°	Max. —2.0600°
			Min. —2.0600°	Min. —2.000°	Min. —2.0600°
Horse*		Pos.	Av. —3.8800°	Av. —3.8000°	Av. —3.8800°
			Max. —3.8800°	Max. —3.8000°	Max. —3.8800°
			Min. —3.8800°	Min. —3.8000°	Min. —3.8800°

*All cow and horse sera examined gave positive serological tests for syphilis. No negative sera were encountered in this series.

**All sera irradiated 60 minutes became seronegative to all tests.

In order to determine the accuracy with which the polariscope could be read, twenty sera were pooled without regard to serological reaction. The degree of rotation of light was determined on fifty different portions of this pooled sera. The values obtained varied from —4.000 to —4.025. This would indicate that the sera would give a negative results to the three tests used.

Sugar determination were made on a series of ten positive and ten negative sera using the

method of Shaffer and Hartman. The sera were then irradiated and sugar again determined. The results obtained, along with the serological reaction and degree of rotation are given in Table II.

Table II

A Comparison of Serological Reaction, Plasma Sugar and Specific Rotation of Irradiated and Non-irradiated Sera

No.	Control Reaction	Sera Mg. Sugar per 100 cc Serum	Degrees Rotation	Reaction	Irradiated Mg. Sugar per 100 cc Serum	Sera (1 hr. exp.) Rotation
1	2+	68	—5.9600	Neg.	68	—4.0000
2	3	75	—5.3148	Neg.	72	—4.0000
3	2	70	—5.4800	Neg.	70	—4.0200
4	3	70	—5.3600	Neg.	70	—4.0200
5	3	72	—5.4500	Neg.	70	—4.0000
6	2	68	—5.4500	Neg.	68	—4.0000
7	2	68	—5.9000	Neg.	68	—4.0000
8	3	70	—5.6300	Neg.	68	—4.0200
9	3	68	—5.5200	Neg.	68	—4.0200
10	4	72	—5.1200	Neg.	70	—4.0000
11	Neg.	68	—4.2000	Neg.	68	—4.0000
12	Neg.	65	—4.2020	Neg.	68	—4.0000
13	Neg.	75	—4.3050	Neg.	70	—4.0000
14	Neg.	68	—4.3000	Neg.	68	—4.0000
15	Neg.	68	—4.0000	Neg.	68	—4.0000
16	Neg.	65	—4.3000	Neg.	68	—4.0000
17	Neg.	65	—4.2500	Neg.	65	—4.0000
18	Neg.	70	—4.3000	Neg.	70	—4.0000
19	Neg.	68	—4.3000	Neg.	68	—4.0000
20	Neg.	72	—4.3200	Neg.	70	—4.0000

DISCUSSION

An examination of Table I will show a difference in the degree of rotation of light caused by the positive human sera and that caused by negative sera to be an average of —1.3136° in the control or non-irradiated sera. In the irradiated sera this difference becomes only —0.064°. There was a decrease in rotation caused by irradiating with ultraviolet light from an average value of —5.3148° to —4.064° in the positive sera and only —4.0012° to —4.000° in the negative group. This would tend to indicate that the reactive substance causing the rotation of light was altered in some way by the ultraviolet rays.

The values obtained in the human group were somewhat greater than those obtained by Rondoni[6], but in general agreed fairly well Rondoni diluted the sera 1:3 with normal saline to decrease the color effect of the sera. In a series of 30 sera he obtained the results shown in Table III.

A comparison of the figures obtained by Rondoni in Table III with those obtained in Table I will show that the positive sera gave 20-30 per cent more rotation than the negative group. In his article, Rondoni did not state his source of light; therefore, if he was not using a pure sodium D line the difference in degree of rotation may be explained. Neither did he state the length of the tube he used.

It will be noted that in Table I the degrees

Table III

No.	Wassermann Reaction	Clinical Diagnosis	Observed Polarity
1	Positive	Syphilis	—1.230
2	Positive	Progressive paralysis	—0.960
3	Positive	Progressive paralysis	—1.035
4	Untreated Positive	Secondary lues	—0.9150
5	Positive	Aerotetic lues	—0.870
6	Positive	Syphilis	—0.1005
7	Positive	Syphilis	—0.945
8	Positive	Syphilitic brain progressive	—0.975
9	Positive	Aerotic lues	—0.960
10	Positive	Aerotic lues	—0.960
11	Positive	Questionable	—1.200
12	Positive	Lues	—0.020
13	Positive	Lues	—0.930
14	Positive	Lues	—1.110
15	Positive	Abdominal typhoid	—1.810
16	Negative	Arthritis	—0.660
17	Negative	Duodenal ulcer	—0.930
18	Negative	Typhoid	—0.810
19	Negative	Malaria	—0.840
20	Negative	Rheumatic fever	—0.780
21	Negative	Rheumatic fever	—0.825
22	Negative	Solerosis of side muscles	—0.810
23	Negative	Optical neuritis	—0.765
24	Negative	Hysteria	—0.810
25	Negatvie	Questionable	—0.675
26	Negative	Suspicious of cancer	—0.675
27	Negative	Questionable	—0.990
28	Negative	Questionable	—0.750
29	Negative	Normal	—0.840
30	Negative	Melitensis	—0.375

of rotation brought about by cow and horse sera are considerably less than those produced by human sera. All animal sera examined gave strongly positive serological tests (3 plus and 4 plus). No negative sera were encountered in this group of 250 sera (50 cows and 200 horses); therefore the difference, if any, between positive and normally negative animal sera could not appear to be significant, being only 0.0800°. traviolet did cause a decrease in rotation it did not appear to be significant, being only 0.800°. This small decrease in rotation may be explained on the grounds that the reactive substance in animal sera alone has been affected by the irradiation while in the case of the human sera the change in rotation might well be the result of the change in optical activity of several constituents of the sera.

Rondoni[6] in his article brings out the fact that various German workers have shown that different types of degenerative diseases tend to increase the degree of rotation of light. He names pneumonia, tuberculosis, pernicious anemia and glanders as outstanding examples. Likewise, he states that the value obtained on a newborn child will be greater than that of the mother.

The exact cause of the change in rotation of light is not clear. Rondoni[6] believes that it is due to the albumen adsorbing on their surface the various decomposition products caused by various diseases, thereby causing a change in the specific rotation. This explanation does not seem probable since we may irradiate positive

sera for a period of 60 minutes and decrease the titre and the degree of rotation. After holding this same sera for a period of 24 hours it regains its optical activity plus its reactivity with the various flocculation tests for syphilis. It would appear that in syphilitic sera there is some optically active substance which has been increased due to the diseased condition, which upon irradiation becomes less active and thereby reduces the rotation and reactivity with the luetic tests. In the negative group of the human sera the rotation of light was not significantly changed by irradiation nor were its serological properties. Therefore it would appear that the fraction of the sera which was affected by the ultraviolet light was responsible for the floccules in the luetic tests.

CONCLUSIONS

1. Positive human syphilitic sera gave an average specific rotation of —5.3148°, while the normal negative group of human sera rotate light on an average of —4.0012°.

2. Cow sera rotate light on an average of —2.0600°.

3. Horse sera rotate light on an average of —3.8800°.

4. Irradiation with a quartz ultraviolet ray light significantly decreases the rotation of positive sera and does not significantly decrease the rotation of negative sera.

Breazeale Research Laboratory.

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Thrombocytopenia Purpura Following Administration of Sulfathiazole

(Case Report)

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THE following report is the study of a case of thrombocytopenia purpura, with recovery, that developed following sulfathiazole medication. The literature on the toxic manifestations of the sulfonamides is replete. Flippin[1] states, that neutropenia occurs in 1 to 2 per cent of cases receiving the sulfonamides. Sulfathiazole is the least toxic of the group and blood dyscrasias are very rare or not seen following its administration.

CASE REPORT

The patient, D. T., aged 16, white male, was admitted to St. Joseph's Hospital on the evening of June 17, because of dizziness, bleeding from his gums, throat and nose of one day duration.

There was no family history of allergy, rheumatic fever, hemophilia, or heart disease. He had the usual diseases of childhood, but otherwise his past history was negative.

His present illness dated back to April 10, 1941, at which time he contracted a cold, which was accompanied by fever, catarrhal symptoms of the upper respiratory tract with a purrulohemorrhagic discharge from his nose. When first seen on April 15, 1941, he appeared very toxic, his temperature was 102, pulse 110. Physical examination was essentially negative, except that the teeth and gums were in poor condition, throat was red and swollen. The mucous membranes of the nose were swollen, congested, covered with a thick sero-hemorrhagic and purulent discharge. Sulfathiazole was prescribed, and over a period of one week, 30 tablets or 13.9 grams of the drug were given. About the fifth day of treatment, he developed a slight rash over his face and trunk, but at the end of ten days he had made an uneventful recovery. On June 16, he had a sore throat; so his mother gave him 1 gm. of sulfathiazole at bedtime. He awakened in the morning bleeding from his gums and nose, and he noted spots over his legs.

Physical examination upon entrance to the hospital, revealed a well developed, very pale boy with normal temperature and pulse. Over the chest and arms there was an occasional petechiae in the skin, while over the lower extremities from the knees down, there was a macular hemorrhagic rash, which coalesced into a diffuse

Chart of Blood Picture and Studies

Date	RBC	Hbg. mgs.	WBC	Diff Poly	Lymphocytes	Total Count	Baso	Eos.	Myel	Juv.	Stab	Seg.	Mono	Bleeding Time	Clotting Time	Coagulation	Capillary Resistance	Platelets
6-17-41	4.7	12.1	6500											35				0
6-18-41	4.7	12	6000											30	6			42,000
6-19-41	4.9	11.8	6000													6.8		53,000
6-20-41	4.3	10.9	5000											17			4	50,520
6-22-41	4.2	10.9	3250	72%	25%	100	0	2	0	3	6	63	9					51,600
6-23-41	4.2	10.9	5900	64%	34%	100	1	1	0	2	19	43	0			9	5	
6-25-41	4.0	10.9	5400	37%	60%	100	0	2	0	0	12	25	1			9		53,000
6-26-41	4.3	10.9	7400	22%	77%	100	0	1	0	2	9	11	0					76,000
6-28-41	3.3	10.0	6500	63%	36%	100	0	1	2	2	14	45	0					
6-29-41	3.8	10.2	5500	55%	38%	100	1	5	0	0	16	39	1					86,000 Discharged
7- 4-41	4.2	10.9	5000	67%	32%	100	0	0	0	1	7	59	1					80,000
8- 9-41	5.3	16.8	10700	57%	39%	100	0	4	0	1	5	51	0	4	8			100,000

erythema and was of a deep purple hue. Hemorrhagic areas were noted on the gums and posterior pharyngeal wall. Two non-retractile clots, 1 cm. in size, were on the hard palate. The chest was resonant throughout, breath sounds were broncho-vesicular, and no rales were heard. Heart was normal. Blood pressure 100/80. There was no abdominal regidity or tenderness. Liver, kidneys and spleen were not palpable. There was no adenopathy. Reflexes revealed no abnormalities. Laboratory findings: Red blood cells, 4,700,000; Hbg. 12.1 gms.; white blood cells, 6,500; urine negative. Blood Wassermann negative. Bleeding time 35 minutes. Blood platelets were absent. Clinical course. Five days after his entrance into the hospital, his temperature rose from normal to 103, pulse 120, respirations 20. His temperature returned to normal by lysis, after four days. He was given symptomatic treatment, a high caloric diet and three capsules of vitamin K daily. At the end of two weeks the bleeding stopped, the purpura had completely disappeared, and the blood picture was normal. He was discharged from the hospital July 4.

COMMENT

The mode of action in drug idiosyncrasy is not well understood. Markel[2] states, that since the sulfonamides are a benzene derivative, the drug may possess some of the toxic characteristics of benzene. Kern[3] has reported cases of benzene poisoning with hemorrhagic tendencies. Shonberg[4] and Markel have each reported a case of purpura hemorrhagica following the administration of sulfanilamide, and Hoffman[5] one case due to sulfapyridine. No cases so far have been reported following the administration of sulfathiazole. In the case we have presented, the thrombocytopenia purpura was due to the patient's idiosyncrasy to sulfathiazole. He gave no history of hemorrhagic tendencies in his family or himself. Over a period of five days he was given 13.9 grams of sulfathiazole. At that time he developed a slight rash. Twenty days after the first course of sulfathiazole, he was given one gram of the drug and developed, purpuric symptoms, within twelve hours. A thrombocytopenia existed, as no platelets were present. His bleeding time was prolonged, the coagulation time was within normal limits, and there was no clot retactability.

With the field of administration for sulfathiazole so widely increased, it is well worth to be aware of the fact that it is not a harmless drug. Any of the milder toxic manifestations as erythema, dizziness, nausea and jaundice are warnings of a possible drug idiosyncrasy. These manifestations, however, do not warrant discontinuation of the drug in severe infectious cases. To this group of patients, sulfathiazole must be administered with great caution. Daily studies of the blood picture are important, as special changes may give the clue of an impending blood dyscrasia.

SUMMARY

A case of thrombocytopenia that developed following the administration of sulfathiazole, with the clinical course and blood studies is reported.

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AMERICA AT WAR

EQUIPMENT AND OPERATION OF EMERGENCY MEDICAL FIELD UNITS MEDICAL DIVISION—BULLETIN NO. 2

Prepared by Office of Civilian Defense
Washington, D. C.

The Field Casualty Service

As recommended in Bulletin No. 1 of the Medical Division, emergency medical field units should be established in all approved general hospitals, both voluntary and governmental, located in coastal states and in industrial centers of the interior. The plan of organization and size of the emergency field units for hospitals of various sizes and the total number of field units recommended on a population basis are outlined in Bulletin No. 1.

The emergency medical field units of a hospital are composed of two or more squads, so that at least one squad is on first call during each twelve-hour period of the day . In larger hospitals reserve squads should be available at the call of the control center in the event that multiple sites of disaster should require the manning of additional casualty stations and first aid posts. All members of emergency medical field units should be systematically drilled in first aid procedures.

Equipment for Emergency Medical Field Units

The following lists include only the minimum medical and surgical equipment required for emergency treatment at the site of a disaster. Provision for other than essential minor surgery has purposely been omitted.

The equipment for each physician and his team is to be carried in two portable boxes provided with handles. These two boxes should be of the same size (15 by 20 by 8 inches) and may be packed conveniently in the ambulance or other vehicle transporting the emergency squad to the site of the casualty station. The provision in separate containers of working supplies for each physician will permit the squad of a casualty station to split off one or more teams of physicians and assistants who can be dispatched with their equipment to set up advanced first aid posts.

Casualty Stations

The casualty station will occupy a predetermined site such as the clinic of a hospital, health department or voluntary agency, a health center or substation, a school basement or other suitable place which provides shelter, protection and accessibility. It should be located if possible on a side street so that ambulances will not block main thoroughfares. The sites selected for casualty stations should be numbered and indicated on a spot map of the community. The casualty station will:

1. Serve as a center from which medical teams may be sent closer to the disaster if required.

2. Care for the less severely injured and for persons suffering from shock and hysteria until they may be permitted to return to their homes or to temporary shelters. This will protect hospitals from the burden of minor casualties which would interfere with the work of caring for the seriously injured.

3. Keep a record of all persons treated at the station and see that all casualties transferred to a hospital are tagged.

The casualty station is to be supplied with stretchers, collapsible cots and blankets from medical depots located at sites from which the transportation of emergency medical service is derived. Eight stretchers, twenty-four cots and sixty-four blankets should be available per 10,000 of population for issue to casualty station, as the need arises: Where kitchen tables are not available at the location of a casualty station, two pairs of saw horses, each 36 inches high, may be required, on which stretchers may be placed to serve as dressing tables. Stretcher teams and rescue squads will obtain their stretchers at casualty stations.

First Aid Posts

The first aid post will occupy a temporary location usually close to the scene of disaster and will:

1. Care for the more severely injured, preparatory to their transfer to a hospital. No surgery other than emergency first aid is contemplated.

2. Classify the casualties so as to expedite the transfer of the seriously injured to a hospital—amost important responsibility which requires surgical judgment.

3. Direct the stream of ambulatory and of slightly injured stretcher patients and those suffering from shock or hysteria to a casualty station.

4. Tag all casualties immediately. Maintain entries in the casualty record book of all persons

receiving first aid. (A nurse or nurse's aide is to be responsible for these records.)

Equipment for a First Aid Post

List 1 indicates the medical and surgical equipment for each physician of an emergency medical field unit and his team of nurse and orderly or nurses' aide. One or more such teams man a first aid post. First aid posts are subsidiary to a casualty station which will furnish replacements of drugs and surgical supplies.

List 1—Equipment for a First Aid Post

(Working supply for one physician's team)

Item	No.
Cases, carrying, waterproof (15 by 20 by 8 inches	2
Scissors, surgical, Mayo 5½ inch curved	1
Scissors, surgical, Mayo 5½ inch straight	1
Scissors, bandage, angular, 7½ inch	2
Forceps, hemostatic, Rochester, curved, 6½ inch	6
Forceps, hemostatic, Rochester, straight, 5½ inch	6
Forceps, tissue, spring, 5½ inch	1
Forceps, tissue, spring, mouse-tooth, 5½ inch	1
Forceps, tongue holding, 7 inch	1
Tube, breathing (airway) hard rubber or metal (adult)	1
Tube, breathing (airway) hard rubber or metal (child	1
Retractor, tissue, double end nested 9 and 10 inch Army type, pair	1
Syringe, hypodermic, Luer, 2 cc.	2
Needles, hypodermic, 25 gage, ½ inch	12
Needles, hypodermic, 19 gage, 1½ inch	6
Tubes, constriction (length 3 inches)	12
Stoppers for constriction tubes	12
Handles, Bard Parker, No. 3	2
Blades, Bark Parker, No. 10, package of 6	1
Drugs	
Morphine sulfate syrettes, 0.015 Gm.	20
Morphine sulfate syrettes, 0.030 Gm.	10
Sulfathiazole, powder, vials, 5 Gm.	12
Ointment, ophthalmic, boric acid, 5% (tube, 4 Gm.)	1
Jelly, tannic acid, tube, 45 Gm.	2
Soap, hand, bar	2
Alcohol, denatured, ethyl, bottle, 500 cc.	1
Ammonia, aromatic spirit, bottle, 60 cc.	1
Sodium bicarbonate	¼ lb.
Phenobarbital tablet, 0.30 Gm.	100
Caffeine sodium benzoate, ampules, 0.5 Gm.	12
Epinephrine hydrochloride, 1 1,000	20 cc.
Dressings, Bandages and so on	
Compress, gauze, 4 by 4 inches	100
Compress, gauze, 2 by 2 inches	200
Pad, surgical, 8 by 10 inches (Dakin)	25
Bandage, gauze, 2 inch	24
Bandage, muslin, 4 inch	24
Bandage, triangular, muslin, 50 by 36 by 36 inches	24
Cotton, absorbent, roll, sterile	2 oz.
Cotton batting, roll	1 lb.
Plaster, adhesive, 2 inch, 10 yards, roll	2
Pins, safety, large	48
Splints, basswood	12
Depressors, tongue, wood	24
Applicators, wood	25
Sheeting, rubber (45 by 72 inches	1
Basins, white enamel, 9 by 6 by 1⅞ inches (one with cover)	2
Stove, gasoline (Coleman)	1
Pencil, indelible	1
Pencil, dermatographic (red)	1
Pads, heating, chemical	4
Pads, heating, refills, chemical	4
Gloves, surgeon's, rubber, size 8 (latex	2
Flashlight (two cell)	1
Lantern, electric, dry cell type	1
Battery, dry cell, for lantern, No. 6	4
Battery, dry cell, for flashlight, No. 950	4
Cups, paper	25
Brush, nail	1
Towels, hand	12
Matches, safety, box	3
Tourniquet, field, web	3
Bag, laundry, small	1
Tags, identification, book of 20	6
Casualty Record Book	1
Suture Material	
Catgut, plain No. 1, tubes, boilable	6
Silk, dermal, medium, 40 inch strand, package	6
Needles, suture, catgut, size 1, ½ circle, trocar point, Mayo	6
Needles, cutting edge, straight	6

Equipment for a Casualty Station

List 2 indicates the equipment for a casualty station. It contains bulky articles, such as traction splints, which could not be included in the equipment of the first aid post without impairing its mobility. These articles will be issued from the casualty station to the first aid posts as the need arises. Casualty stations are also stocked with dressings, bandages and drugs from which the supplies of the first aid posts may be replenished. Blood, plasma and biologic products such as tetanus antitoxin or toxoid may be obtained by casualty stations from the parent hospital as needed. They are, therefore, omitted from this list.

List 2—Equipment for a Casualty Station

(Emergency squad of two or four physicians, nurses and nursing auxiliaries)

Item	No.
Trunk, Army type (30 by 16½ by 12 inches)	1
Pins, safety, large	100
Splint, basswood	30
Depressors, tongue, wood	100
Applicators, wood	50
Sheeting, rubber (45 by 72 inches)	2
Basins, white enamel, 9 by 6 by 1⅞ inches (2 with cover)	4
Gag, mouth	1
Stove, gasoline (Coleman)	2
Catheter, urethral, rubber, F. 14	4
Tags, identification (books of 20)	6
Pencil, indelible	4
Pencil, dermatographic (red)	4
Pads, heating, chemical	8
Refills, pads, heating, chemical	8
Gloves, surgeon's, rubber, size 8 (latex	4
Cups, paper	50
Brush, nail	2
Matches, safety, package of 12 boxes	1
Towels, hand	24
Lantern, electric, dry cell	2
Batteries, dry cell, lantern, No. 6	12
Tourniquet, field web	6
Bag, laundry, small	2
Splint, arm, hinge, Thomas	4
Splint, leg, half-ring, Army type	4
Splint, Thomas, leg, child	2
Splint, arm, Murray Jones, child	2
Catgut, plain No. 1, tubes, boilable	12
Silk, dermal medium 40 inch strand, package of 12	1
Needles, suture, size No. 1, ½ circle, trocar point, Mayo	12
Needles, cutting edge, straight	12
Razor, safety	1
Blades, safety razor	12
Drugs	
Morphine sulfate syrettes, 0.015 Gm.	40
Morphine sulfate syrettes, 0.030 Gm.	20
Sulfathiazole, powder, vials, 5 Gm.	24
Ointment, boric acid, ophthalmic, 5% tube, 4 Gm.	2
Jelly, tannic acid, tube, 45 Gm.	4
Alcohol, denatured, ethyl, 70%	1 qt.
Ammonia, aromatic spirit, bottle, 60 cc.	1
Caffeine sodium benzoate, 0.5 Gm. ampules	24
Phenobarbital, 0.03 Gm.	200
Procaine hydrochloride tablets, 0.18 Gm.	100
Soap, hand, bar	4
Sodium bicarbonate	1 lb.
Sodium chloride compressed tablets, 1 Gm.	100
Dressings, Bandages and so on	
Compress, gauze, 4 by 4 inches	200
Compress, gauze, 2 by 2 inches	400
Pad, surgical, 8 by 10 inches (Dakin)	50
Bandage, muslin, 4 inch	48
Bandage, gauze, 2 inch	48
Bandage, triangular muslin (50 by 36 by 36 inches)	48
Cotton, absorbent, roll	1 lb.
Cotton batting, roll	2 lb.
Plaster, adhesive, 2 inch, 10 yards	4

Identification Tags

The identification tag is to be filled out by the first member of a rescue squad, stretcher

team of first aid post to reach the casualty. This must be done immediately, because the patient may lose consciousness. All the required information should be recorded. Information concerning the name and address of the injured and of the "person to be notified" are important to those anxious to locate the injured person. The place where an unconscious patient was found should be noted, since this may be the only clue to his identity.

It is important to record administration of narcotics or application of a tourniquet. Further treatment given at the first aid post or casualty station should be indicated on the back of the identification tag. Warnings concerning possible internal injury, hemorrhage or skull fracture should also be noted on the back of the tag to facilitate sorting of patients on arrival at the hospital.

The tag should be affixed securely to the patient and not to clothing which might later be removed.

A set of symbols to indicate the necessity for priority treatment has been devised to facilitate sorting of patients at the hospital. These symbols should be drawn prominently on the forehead of the patient at the first aid post or casualty station with a red skin pencil:

U	Urgent—requiring priority attention.
TK	Tourniquet.
T	Indicating tetanus antitoxin has been given.
H	Internal hemorrhage.
M¼	Indicating ¼ grain of morphine or
M½	½ grain given.

In addition, a casualty record book will be part of the equipment of each physician's team. A nurse or nurse's aide should be assigned the responsibility for entering a record of every patient seen. This record should include the diagnosis, treatment and disposition.

NEW MEDICAL APPOINTMENTS

Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, Washington, D. C., has announced the appointment of a subcommittee of the Advisory Board of the Medical Division, Office of Civilian Defense, to prepare recommendations on protective procedures for hospitals in the event of belligerent action.

Dr. Robin C. Buerki, dean of the Graduate School of Medicine and director of hospitals of the University of Pennsylvania, Philadelphia, a member of the Medical Advisory Board, is chairman of the new subcommittee and the members are:

Dr. Willard C. Rappleye, commissioner of hospitals, New York City.

Dr. Asabel J. Hockett, superintendent of Touro Infirmary, New Orleans.

Dr. Anthony J. J. Rourke, medical superintendent of Stanford University Hospitals, San Francisco.

Dr. Joseph Turner, director of Mount Sinai Hospital, New York City.

Dr. Huntington Williams, commissioner of health of Baltimore.

The subcommittee held its first meeting at the Hotel Commodore, New York, November 6. With Dr. James M. Mackintosh, former Chief Medical Officer of the Scottish Ministry of Health, as a guest to advise the group, measures for preventing or minimizing damage to buildings, handling of casualties, evacuation, provision and protection of supplies, and training or personnel for specific duties in case of bombing were discussed in detail. The basis for discussion was a study made by a committee of the American Hospital Association on physical defense of hospitals, of which Dr. Hockett is chairman. It is expected that a report will be issued jointly by the hospital association committee and the committee representing the Office of Civilian Defense.

Dr. Mackintosh also conferred with the staffs of the medical and civilian protection divisions of the OCD at the Washington headquarters, November 7, describing in detail Britain's organization of its protective services, its early mistakes and the measures taken to correct them.

The basic organization for rescue work in a given area consists of three essential groups with a central control, police, rescue and fire services, ARP control and medical service.

One of the early mistakes was the belief that it was imperative to have first aid workers on the scene of a bombing immediately. Bitter experience showed that injured persons were usually buried under rubble and glass of their homes and that hours of work by the demolition and rescue squads were often necessary before first aid could be given.

Dr. Mackintosh emphasized the necessity for a central ambulance control. Ambulances are dispatched only by the central control and are not allowed to move from a bombed area until routes to hospitals have been surveyed. To stop "panic calls" from individuals, private tele-

phones are now cut off the moment an air raid warning sounds.

First aid posts, in addition to their obvious function of caring for the injured, are invaluable as rendezvous for rescue workers, physicians and nurses as well as the general population, who may become lost in the blackout, frightened, choked and blinded by dust, he said. In the first aid post the workers can clean up, have a cup of tea and return refreshed to their activities.

Appointment of Regional Medical Officers

The Office of Civilian Defense has organized on a regional basis, with regions corresponding to the U. S. Army Corps Areas. A regional director has been appointed for each region with headquarters in the same city in which the corps area headquarters are located. Regional medical officers have been appointed as follows:

First Civilian Defense Region: Dr. Allan M. Butler, 101 Milk Street, Boston.

Second: Dr. H. Van Zile Hyde, 111 Eighth Avenue, New York City.

Third: Dr. W. Ross Cameron, 400 Cathedral Street, Baltimore.

Fifth: Dr. William S. Keller, 425 Cleveland Avenue, Columbus, Ohio.

Eighth: Dr. Witten B. Russ, Majestic Building, San Antonio, Texas.

Ninth: Dr. Wallace Hunt, 233 Sansome Street, San Francisco.

These physicians have been commissioned as senior surgeons in the U. S. Public Health Service.

SOCIETY ACTIVITIES

WARNER W. WATKINS, M. D.
Secretary
Arizona State Medical Association

L. B. COHENOUR, M. D.
Secretary
New Mexico Medical Society

LOUIS BRECK, M. D.
Secretary
Southwestern Medical Association

CHAS. F. RENNICK, M. D.
Secretary
El Paso County (Texas) Medical Society

NEW MEXICO MEDICAL SOCIETY

(L. B. Cohenour, Associate Editor)

At the last meeting of the McKinley County Medical Society, held on Wednesday evening, December 17, at Gallup, New Mexico, the following officers were elected for the coming year. President, E. A. Campbell, M. D.; Vice-President, F. W. Parker, M. D.; Secretary-Treasurer, W. D. Anthony, M. D. A letter was sent to Mrs. Peters, of Albuquerque, expressing the sympathy of the Society in the recent death of her husband, Dr. L. S. Peters. A committee was appointed to arrange for a party, in January, for the outgoing President, Dr. H. T. Watson, and for Dr. D. M. MacCornack, who is leaving Gallup in the near future.

It has been decided to send a letter to the McKinley County Commissioners, and to the Gallup Town Board, asking that they enforce the law pertaining to the capture and management of stray dogs in the community.

Due to illness, Dr. Vincent Accardi was unable to present a medical paper, as scheduled.

Reported by William Dodd Anthony, M. D.

Dr. LeRoy S. Peters, of Albuquerque, passed away December 17, 1941. A past president of the Southwestern Medical Association, Dr. Peters had taken active interest in the affairs of organized medicine in the entire Southwest. He limited his practice to internal medicine and the treatment of tuberculosis. Dr. Peters was a Fellow of the American College of Physicians, and a Governor of that body. He was a Diplomate of the American Board of Internal Medicine, a member of the staff of St. Joseph Sanatorium and Presbyterian Sanatorium of Albuquerque. Dr. Peters was born in 1882, was granted his M. D. degree by University of Illinois in 1906. He served as a medical officer in the U. S. Army during World War I.

Many are the hearts in the Southwest saddened by his passing. "Pete" was a grand friend, frank in his opinions, penetrating in

his judgments, loyal in a high degree. His cheerfulness and gift of guidance will be sorely missed by all who knew him. He passed as a doctor should—in the harness.

God rest the soul of our friend "Pete."

The officers of the Colfax County Medical Society for 1942: Dr. A. H. Follingstad, President; Dr. R. L. Fuller, Vice-President; Dr. R. W. Hack, Secretary-Treasurer. The first meeting of 1942 was held in Springer on January 20.

Dr. C. S. Hart, formerly Chief Surgeon for the Stag Canyon Branch of the Phelps Dodge Corporation of Dawson, New Mexico, is spending some time in hospital work at the University of Kansas Medical School, Kansas City, Kansas.

Dr. and Mrs. A. H. Follingstad are the proud parents of twin sons, born recently.

Dr. R. W. Hack was a recent visitor in El Paso, where he attended the meeting of the Southwestern Medical Association.

Dr. M. J. Poppen of Raton, who has been with the American Expeditionary force in Iceland since July 1941, is in charge of the surgical ward of the Marine Hospital. He reports the weather cold, but the people of Iceland very friendly and hospitable.

EL PASO COUNTY (TEXAS) MEDICAL SOCIETY

(W. John Pangman, Associate Editor)

The regular meeting of the El Paso County Medical Society was held December 8, 1941, in the Tea Room of the Hotel Cortez at 7:30 P. M. The meeting was presided at by Dr. Varner, the President. There was a guest speaker present from the Mayo Clinic, Dr. William C. McCarty, who presented a paper entitled "Early Diagnosis of Cancer."

Following Dr. McCarty's paper the annual business meeting was held. The election of officers was held with Dr. Cummins as election judge and Dr. Will Rogers and Bob Thompson as tellers. Two letters were read in connection with the election. One was a letter from Dr. Egbert requesting that his name be withdrawn from candidacy for president-elect, which request had previously been granted by the election committee. A letter was read from the nominating committee regarding the nominations made.

The minutes of the previous meeting were read and approved. The report of the Milk Committee was read by Dr. Leigh and a motion was made, seconded and passed that the report be accepted. The reports of all committees will be found filed separately in the archives of the Association. The report of the library and dues committee was made by Dr. Leslie Smith and a motion was made, seconded, and passed that this report be accepted. The report of the Cancer Committee was made by Dr. Hart in the absence of Dr. Catheart and a motion was made, seconded, and passed that the report be accepted. The report of the Medical Economics Committee was made by Dr. R. B. Homan, Jr., and a motion was made, seconded, and passed that this report be accepted.

The financial report for the year was read by the Secretary-Treasurer. This report had previously been approved by the auditing committee. The report of the Executive Committee was read by the Secretary. A motion was made, seconded,and passed that the financial report and the report of the Executive Committee be accepted. Dr. Varner reported on the Home Defense also, stating that he, together with several other doctors, was in charge of organizing the doctors of El Paso to take care of Home Defense Work.

A motion was made, seconded, and passed to put $500.00 from our treasury into U. S. Defense Bonds. Dr. Stowe made a motion that the dues be raised from $18.00 to $25.00. This motion was amended by Dr. McCamant to the effect that the motion be submitted to members of the El Paso County Medical Society by mail and that the vote be held by mail. The amendment and the motion were passed. Before passing the motion there was a great deal of discussion as to the amount of dues of the Medical Society and it was pointed out that in order to have a library which amounted to anything it would be necessary to raise the dues. There was considerable discussion both pro and con on this

point. The report of the Military Affairs Committee was made by Dr. Will Rogers and the motion was made seconded and passed to accept his report. The report of the Public Health and Legislation Committee was made by Dr. Cummins in which it was recommended that the present food handlers law to be kept until a better one is passed by the State Legislature. Dr. Newman discussed this report in considerable length and stated that he was opposed to trying to enforce the food handlers law as it was written and felt that it should be dropped and certain other things be put into effect to protect the public from food handlers. (See Dr. Newman's report in the archives.) There was considerable discussion on this subject. A motion was made, seconded, and passed that the 2 reports be studied and neither accepted at this meeting. In addition to this the motion contains the statement that the whole subject be referred to the Executive Committee and that they report back to the County Medical Society in the near future about the matter. Dr. Laws reported for the special committee to study the situation of infant mortality in El Paso. Dr. Awe made the report for the Pneumonia Committee for the year.

The meeting was then turned over by Dr. Varner to the incoming president, Dr. Barrett, who presided for the rest of the meeting. The returns from the election were read (see attached report). Meeting adjourned.

New officers of El Paso County Society: President-Elect, W. E. Vandevere; Vice-President, J. E. Morrison; Secretary-Treasurer, C. F. Rennick; Delegates, R. B. Homan, Jr., L. O. Dutton; Alternates, T. J. McCamant, J. W. Laws; Librarian, L. W. Breck; Nominating Committee, George Turner, H. H. Varner, E. W. Rheinheimer; Economic Committee, H. E. Rogers; Milk Committee, S. D. Armistead, I. M. Epstein; Censor, J. L. Green; Board of Southwestern Medicine, L. O. Dutton, P. Gallagher; Cancer Committee, M. S. Hart.

The staff of Hotel Dieu Sisters' Hospital met January 6. The program:

Case of Gastrointestinal Hemorrhage, by Dr. H. Haffner.

Discussion by Drs. John Murphy and James Gorman.

Annual election of staff officers was held at the City-County Hospital December 17, 1941. The following were named:

Chief of Staff, J. Leighton Green, M. D.; Vice Chief of Staff, Robert Thompson, M. D.; Secretary, O. J. Shaffer, D. D. S.

At the regular meeting of El Paso County Medical Society on January 12, the program was as follows:

Tuberculosis Osteomyelitis of the Shaft of Long Bones by Dr. W. Compere Basom.

The Medical Defense Emergency Program by Dr. Harry H. Varner.

AUXILIARY NEWS

WOMAN'S AUXILIARY TO THE ARIZONA STATE MEDICAL ASSOCIATION

President, Mrs. B. B. Edwards, Tucson, Arizona.

Publicity Chairman, Mrs. Harold W. Kohl, Tucson, Arizona.

During the summer months, as usual in Arizona, very little was done by the Woman's Auxiliary to the Arizona State Medical Association. Committee chairmen were appointed shortly after the State Convention held in Phoenix last April. Our first board meeting was held in October in Tucson with a large attendance and plans for the year were discussed. We are hoping to have organized soon, two new counties—Yavapai and Cochise, making a total of four counties. Yavapai County is already making plans for the State Convention to be held in Prescott next May.

Owing to the present need for defense help our members are doing their share in helping in many different ways. Many have given a lot of time to the Red Cross in its many phases of work. Local philanthropic work is also being done.

Arizona was honored in having Mrs. J. D. Hamer of Phoenix appointed National Legislative Chairman at the last National Convention which was held in Cleveland.

Our National President, Mrs. R. E. Mesiman, hopes to make the Auxiliary in Arizona a visit some time in February.

WOMAN'S AUXLIARY TO THE MARICOPA COUNTY MEDICAL SOCIETY

Delegate's report by Mrs. Lloyd K. Swasey.

The hospitality and graciousness of the women of the Ohio Medical Auxiliary during the Nineteenth Annual Session of the American Medical Association held in Cleveland, June 2-6, 1941, will long be remembered by those who were so fortunate as to be in attendance.

The formal opening of the convention took place in the ballroom of Hotel Carter, Tuesday morning, June 3, 1941, with Mrs. V. E. Holcombe, President, presiding. One of the most impressive of the opening ceremonies was the procession of forty state president, each bearing their state flag to the platform and each giving a brief report of the activities of their respective auxiliaries.

During the opening session, the National Commander of the American Society for the Control of Cancer, Marjorie B. Illig, spoke of the nationwide program of the Society to fight cancer with knowledge, stressing the fact that cancer is the particular enemy of women, causing 60 per cent of the deaths.

Miss Etta A. Creech, Director of the Family Health Association, spoke on Child Health Education. Dr. Helen A. Hunscher, Professor of Home Economics, Western Reserve University, in her talk on Nutrition—Food for Fitness—reported on the recent National Nutrition Conference for Defense held in Washington under the direction of Federal Security Administrator Paul V. McNutt with 700 delegates in attendance. "The responsibility of these delegates was to arouse the nation to the importance of the nutrition problem both in a period of defense and in the long vistas of the future."

The business sessions including the reports of standing committees and the officers were concluded on Wednesday morning. The highlight of this session was the inaugural address given by Mrs. R. E. Mosiman, which was truly inspirational.

A luncheon honoring past presidents was held on Tuesday (noon) with Dr. National B. Van Etten, President of the American Medical Association, and Dr. Morris Fishbein, Editor of the American Medical Association Journal and Hygeia, as guest speakers. Dr. Fishbein, in his talk, pointed out that the aid that the Auxiliary could be expected to extend to physicians and their families moving into military camps, was in helping them to establish residences and becoming interested in their local societies.

The annual luncheon honoring the President, Mrs. Holcombe, was held on Wednesday, with Dr. Frank Lahey, President-Elect and the Honorable Hatton W. Sumners, Chairman of the Judiciary Committee, House of Representatives as principal speakers.

Members of the Advisory Council were also honor guests at this luncheon.

Tuesday evening found doctors and their wives assembled in the Music Hall of the Cleveland Auditorium for the introduction and installation of President-Elect Lahey.

Wednesday evening a reception honoring Mrs. V. E. Holcombe and R. E. Mosiman in the Allen Memorial Library, while Thursday evening the annual dinner at the Hotel Carter, for members husbands and guests, was given, with Dr. Arthur W. Booth, Chairman of the Advisory Council of the Woman's Auxiliary, and J. S. Newman, satirist and author of Poems for Penguins, as principal speakers, followed by the reception and ball in honor of President Lahey.

One of the outstanding places of interest visited in Cleveland was the Health Museum, a new and interesting project, and the only one of its kind in America.

The Cleveland Country Club was the scene of a fashion show and luncheon on Thursday.

Other events included a sightseeing tour through the city of Lakewood, and part of the 10,000 acre Metropolitan Park area to the airport, one of the largest in this country, where a courtesy flight over the city was at our disposal. This was followed by a tea at the Lake Shore Hotel, overlooking Lake Erie.

To Mrs. Fred C. Oldenburg, Convention Chairman, goes unstinted praise for her untiring efforts, and the success of the meeting for Ohio Auxiliary, in addition to being hostess to a National Convention, which was also celebrating its first birthday as a state auxiliary.

Invest in America !

MISCELLANY

DIAGNOSTIC HINTS IN ENDOCRINOLOGY

Poor circulation, with bluish and cold extremities, myocardial asthenia, reduced blood pressure are some of the common evidences of adrenal insufficiency.

The upper teeth are large in under-activity of the anterior lobe of the pituitary.

In Graves' disease there is a distinct lagging of the upper eyelid in relation to the upper edge of the cornea in motion from above downward.

Another constant eye sign observed in Graves' disease is a peculiar twitching of the eyes at the instant of changing the movement of abduction to that of adduction.

Bitemporal heminposia with the outer fields of vision impaired is one of the constant signs in tumor of the pituitary gland.

The iris of a patient with hypoadrenia while it reacts readily to light, contracts very slowly.

The administration of thyroid extract to a patient already suffering from thyroid toxemia always aggravates the symptoms.

Attacks of acute, circumscribed cutaneous edema and of gastric intestinal and sudoral hypersecretion is a common sign in parathyroid insufficiency.

In infants, severe atrepsia, skeletal nanism, with thick, short, deformed fragile bones are signs and symptoms of total thymus insufficiency.

In Graves' disease, the sclera will often show above and below the cornea. Most frequently it shows from below, or vice versa. It is best observed when the eyes are at rest.

The child suffering from hypoadrenia exhibits pallor, a pasty look to the skin, a flabby musculature, a lack of circulatory tonicity, a feeble cardiac activity, cold hands and feet, loss of appetite and loss of weight.

Severe epigastric pain, radiating to the back, obstinate vomiting and diarrhea, followed by profound weakness, reduction of blood pressure, low temperature, cold sweats and a slight bronzing of the skin indicates hyperfunction of the adrenals.

One of the characteristic features of thyroid deficiency is sensitiveness to cold. The actual body temperature is reduced in some cases as much as three and a half degrees.

The convulsions in parathyroid deficiency are almost always symmetrical on both sides of the body.

Double vision or blurring in pituitary enlargement signifies that the enlargement is beginning to impinge upon the optic nerve.

Hyperactivity of the parathyroids is characterized by weakness and pain in the bones. The bones become soft and deformities of the skeleton occur. In an advanced stage of the disease the chest may bulge and the legs bend outward, giving rise to a typical "frog-leg" appearance.

Eosinophilia, high blood uric acid, abnormal galactose and increased urine volume are among the valuable signs of pituitary deficiency.

—Ohio St. Med. J.

CAUSES OF PULMONARY HEMORRHAGE

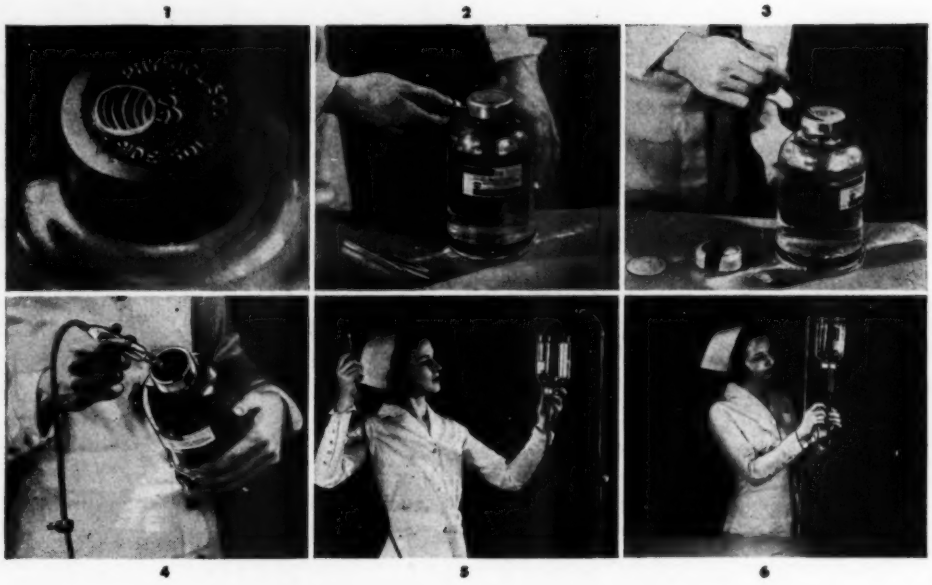
(1) Acute inflammatory lesions
- tuberculosis
- pneumonias
- typhoid fever
- whooping cough

(2) Chronic inflammatory lesions
- bronchiectasis
- lung abscess
- lung gangrene
- actinomycosis
- echinococus
- fibroid pneumonia
- ulceration of the larynx, trachea or bronchi
- spirochetal bronchitis
- bronchial fluke
- other pulmonary parasites

(3) Hemorrhagic and blood diseases
- hemophilia
- scurvy
- hemorrhagic forms of infectious diseases

(4) Cardiovascular diseases
- myocardial failure
- mitral stenosis or insufficiency
- hypertension
- eclampsia
- pulmonary infarcts
- pulmonary thrombosis
- pulmonary embolism

VACOLITER SIMPLICITY



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(5) New growths
mediastinal
pulmonary
bronchial
tracheal
laryngeal
(6) Trauma
gunshot wounds
stab wounds
fractured ribs
contusions
foreign bodies
(7) Miscellaneous
spontaneous
vicarious menstruation

—*Meakin's Practice of Medicine*

NEED FOR DOCTORS

President Roosevelt's call for a thousand American physicians to volunteer their services to Great Britain gives emphasis to the importance of doctors in this country's defense program. A shortage of doctors may be felt here before long unless Congress passes the pending bill of Senator Murray for deferment of medical and dental students and internes from the draft until completion of their training.

Many doctors and dentists already have left civilian life for work in the Army camps, and more will follow. To insure adequate medical personnel for both civilian and military needs, the medical schools must be kept fully open and the military training of their students and of hospital interns deferred until their terms are completed.

National defense calls for a competent medical personnel as well as for men to carry guns. The Murray bill offers the best assurance of preparedness in this field and should be passed promptly as a means to conserve the nation's medical resources and to make them available where they will do the most good. It embodies the kind of foresight needed to avoid a shortage of doctors like that which England now suffers.

—*Dallas News.*

PRIZE AWARD

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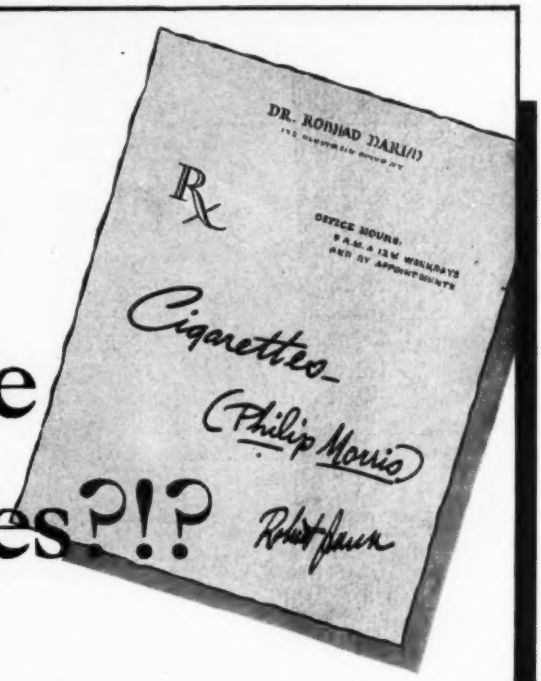

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**Facts from: Proc. Soc. Exp. Biol. & Med., 1934, 32, 241-245; N. Y. State Jrl. of Med. Vol. 35, No. 11,590; Arch. of Otolaryngology, Mar. 1936, Vol. 23, No. 3,306.*

Obstericians, Gynecologists and Abdominal Surgeons have been announced as follows:

(1) "The award which shall be known as 'The Foundation Prize' shall consist of $150."

(2) "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M. D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal Surgery."

(3) "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

(4) "Manuscripts must be limited to 5000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

(5) "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

(6) Three copies of all manuscripts and illustrations entered in a given year must be in the hands of the Secretary before June 1st."

(7) "The award will be made at the Annual Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

(8) "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

Further information may be obtained from:

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SKIN CANCER

1. Cutaneous metastatic cancer may be associated with inflammatory signs.

2. The clinical features of inflammatory metastatic carcinoma of the skin are closely allied to true inflammation or erysipelas but there is no chill, fever, prostration or leukocytosis.

3. Based on clinical appearances, diagnosis is difficult and biopsy is usually necessary.

4. As inflammatory metastatic cutaneous cancer secondary to primary cancer of the breast is common, any inflammatory lesion of the skin on or about the breast, which does not subside within two or three weeks, warrants an incisional biopsy for diagnosis.

5. Histopathologically, the inflammatory signs are due to extensive lymphatic blockage by cancer cells which causes edema. The pressure of edema, plus actual blood vessel invasion, produces capillary congestion which is responsible for the clinical signs of redness and local heat.—*Wisc. Med. Jo.*

BOOK NOTES

L. O. DUTTON, M. D.
(Book Review Editor)
Mills Bldg., El Paso, Texas

SYNOPSIS OF ALLERGY, By Harry L. Alexander, A.B., M.D. Professor of Clinical Medicine, Washington University School of Medicine, St. Louis: Editor of The Journal of Allergy. The C. V. Mosby Co., St. Louis, Mo. $3.00.

This short voluume of 240 pages is an outline of the allergic diseases as we understand them today. The author avoids, as much as possible, controversial subjects, of which there are many in this field, and presents as concisely and clearly as possible that which is accepted by most workers in the field.

Diagnostic procedures are carefully evaluated and explained and therapeutic procedures are presented. Specific hyposensitization, avoidance of allergens, and palliative therapeutic measures are discussed in brief but concise manner.

The appendix contains a discussion of the occurrence of allergens in various household articles, directions for preparation of testing extracts and recipes for substitute dishes for those on dietary restrictions.

The book should be valuable for the general practitioner who wishes to have a survey of the

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field of allergy and to become familiar with its working methods.—*L. O. Dutton.*

SYNOPSIS OF THE PREPARATION AND AFTERCARE OF PATIENTS. By Hugh C. Ilgenfritz, A. B., M. D. Instructor in Surgery, Louisiana State University School of Medicine: Visiting Surgeon, Charity Hospital of Louisiana at New Orleans: and Rawley M. Penick, Jr., Ph. B., M. D., F. A. C. S. Professor of Clinical Surgery, Louisiana State University School of Medicine: Visiting Surgeon, Charity Hospital of Louisiana at New Orleans. With Foreword by Urban Maes, M.D., D.Sc., F.A.C.S. $5.00.

This small handbook is valuable for its wealth of information concerning the management of surgical patients. Excellent discussions are presented of fluid and electrolyte balance, shock, transfusion, general preoperative measures, and general postoperative measures. Minor and major postoperative complications are discussed in detail. The remainder of this book discusses special phases of these general principles as applied to the surgery of different organs. Procedures are given in careful detail and the indications for their use are carefully discussed. The volume can be highly recommended.

—*L. O. Dutton.*

DISEASES OF THE THYROID GLAND, by Arthur E. Hertzler, M. D., Professor of Surgery in the University of Kansas. Published by Paul B. Hoeber, Inc., 1941. 495 Illustrations. 670 pages. Price $8.50.

This is an extremely practical summary of diseases of the thyroid gland. Diagnosis, pathology, and treatment are discussed in detail, including specific consideration of pre- and postoperative management of the patient. One chapter is devoted to operative technique, and another to topographic anatomy, both well illustrated. Throughout most of the book the advantages of total thyroidectomy over partial thyroidectomy are emphasized, the author's observations being backed by his ten years of experience in performing this operation. Likewise emphasized is the importance of recognizing the cardiotoxic factors of goitre as compared to or combined with thyrotoxicosis. After reading the chapter on myxedema one can't help wondering what became of the thyroid gland physiology he learned in medical school. All phases of thyroid pathology are discussed in the author's inimitable style and pictured by photographs and clinical illustrations. The reasonable conclusions drawn by the author from his clinical experience raise many questions regarding present concepts of thyroid function. This book is recommended.—*J. F. Standard.*

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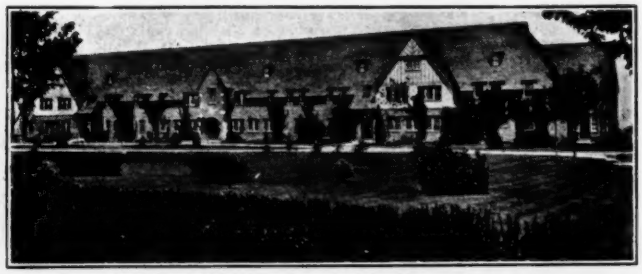

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—L. O. Dutton.

SYNOPSIS OF GENITOURINARY DISEASES. By Austin I. Dodson, M. D., F. A. C. S., Richmond, Virginia. Professor of Genitourinary Surgery, Medical College of Virginia: Genitourinary Surgeon to the Hospital Division, Medical College of Virginia: Genitourinary Surgeon to Crippled Children's Hospital: Urologist to St. Elizabeth's Hospital: Urologist to St. Luke's Hospital and McGuire Clinic. $3.50.

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